



1.1 $P = f \{ C, Y, T \}$ where C, Y, and T are variables endogenous to the security

P = Market Price

C = Cash Receipts, periodic coupon, dividend or premium payments

Y = Yield, a single term relating security's return, relative to P. C. T

T = Time, a terminal or continuous measure of the life of the security.

Figure 2

1.2 Yield
$$M = \frac{\sum (Maturity \times Portfolio Coefficient \times YTM), for all issues}{\sum (Maturity \times Portfolio Coefficient), for all issues}$$

where Yield M = Governing Yield = Y

Maturity = Time = Maturity in Years

Portfolio Coefficient = Present Value, per issue/Present Value, Σ issues

Present Value = Accrued Interest + (best bid Price × Face Value)

YTM = Yield-To-Maturity, a means providing yield respective time.

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Figure 3

1.2d Yield Md =
$$\frac{\sum (Duration \times Portfolio Coefficient \times YTM), for all issues}{\sum (Duration \times Portfolio Coefficient), for all issues}$$

Figure 4

1.3 K =
$$\frac{-C}{Y^2} (1 - (1 + Y/2)^{-2T}) + \frac{C}{Y} (T + TY/2)^{-2T-1} - (T + TY/2)^{-2T-1}$$

1.3w K =
$$\frac{-C}{Y^2} + \frac{C}{Y^2} (1 + Y/2)^{-2T} - (1 - C/Y)(T + TY/2)^{-2T-1}$$

(Convexity)
$$\frac{2C}{Y^3} - \frac{2C}{(1+Y/2)^{2T}} - \frac{CT}{Y^2} - \frac{C}{(T+TY/2)^{2T+1}} + \frac{(1+C/Y)(T^2+T/2)}{(T+TY/2)^{2T+2}}$$

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Figure 6

1.5 Portfolio Coefficient, for each Issue = Present Value / Present Value;

where 1.5a Present Value¹ = (AI + (Bid Price × Face Value)), for each Issue;

1.5b Present Value^P = \sum (AI + (Bid Price × Face Value)), for all Issues.

Figure 7

1.60	Dragant Valua P -	\sum (AI + (Bid Price ×	Essa Value	
1.0a	1 leselle value	Z (Mi ' (Did i lice X	race value), 101 all 188ues,

- 1.6b Accrued Interest^P = \sum Accrued Interest, AI, for all Issues;
- 1.6c Face Value^P = \sum Face Value, for all Issues;
- 1.6d Implied Price P = (Present Value P AI P)/ \sum Face Value, for all Issues.

Figure 8

1.7a
$$C^P = Cash Flow^P = \sum C \times Portfolio Coefficient, for all Issues;$$

1.7b
$$T^P = Time^P = \sum Maturity \times Portfolio Coefficient, for all Issues;$$

1.7c
$$Y^P = Yield^P = \sum Yield \times Portfolio Coefficient, for all Issues.$$

Figure 9

1.8a
$$C^P = Coupon^P = \sum Coupon \times Portfolio Coefficient, for all Issues;$$

1.8b
$$T^P = Maturity^P = \sum Maturity \times Portfolio Coefficient, for all Issues;$$

1.8c
$$Y^P = Yield^P = \sum Yield \times Portfolio Coefficient, for all Issues.$$

1.9a Duration
$$= \sum Duration \times Portfolio Coefficient, for all Issues;$$

1.9b Convexity^P =
$$\sum$$
 Convexity × Portfolio Coefficient, for all Issues.



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implementing according to Formula 1.1, processing financial data inputs C, Y, T

$$P = f\{C, Y, T\}$$

numerically generating governing yield data for a single security or for portfolio, manufacturing processed financial data per Formula 1.2 or 1.2d

Yield M = (Maturity x Portfolio Coefficient x YTM), for all issues
(Maturity x Portfolio Coefficient), for all issues

Yield Md = <u>(Duration x Portfolio Coefficient x YTM), for all issues</u> (Duration x Portfolio Coefficient), for all issues

if for single security, Yield M or Md, its portfolio coefficient is 1

if for single cash flow of basket, respective term's zero spot rate, derived from market's zero spot if for a portfolio of securities, by basket or as single aggregate

if single aggregate for portfolio, implementing portfolio method, the Formulae of 1.5 through 1.9

calculating duration (K) and convexity (V) data values, Formulae 1.3 and 1.4

$$K = \frac{-C}{Y^2} + \frac{C}{Y^2} (1 + Y/2)^{-2T} - (1 - C/Y)(T + TY/2)^{-2T-1})$$

$$V = \frac{2C}{Y^3} - \frac{\frac{2C}{Y^3}}{(1+Y/2)^{2T}} - \frac{\frac{CT}{Y^2}}{(1+Y/2)^{2T+1}} - \frac{\frac{C}{Y^2}}{(T+TY/2)^{2T+1}} + \frac{(1+C/Y)(T^2+T/2)}{(T+TY/2)^{2T+2}}$$

estimating, per Formula 1.10, Δ Price = $(K \times \delta Y) + (\frac{1}{2} \times V \times (\delta Y)^2)$

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Figure 12

utilizing data values for each issue's endogenous variables of C, Y, T, per Formula 1.1; utilizing data values for each issue's exogenous variable of Price, incl. Accrued Interest: $P = f\{C, Y, T\}$ generating the portfolio coefficient for each issue in portfolio, per Formula 1.5, 1.5a, 1.5b: Portfolio Coefficient, for each Issue = Present Value / Present Value ?; Present Value^I = (AI + (Bid Price x FaceValue)), for each Issue; Present Value^P = Σ (AI+(Bid Price x Face Value), for all Issues generating aggregate portfolio (P) data relating portfolio, per Formulae 1.6 thru 1.9: Present Value^P = Σ (AI + (Bid Price x Face Value), for all Issues; Accrued Interest^P = Σ Accrued Interest, AI, for all Issues: Face Value^P = Σ Face Value, for all Issues; Implied Price^P = (Present Value^P – AI^P)/ Σ Face Value for all Issues $C^P = Cash Flow^P = \Sigma C \times Portfolio Coefficient, for all Issues;$ $T^{P} = Time^{P} = \Sigma$ Maturity x Portfolio Coefficient, for all Issues; $Y^P = Yield^P = \Sigma Yield \times Portfolio Coefficient, for all Issues$ Duration^P = Σ Duration x Portfolio Coefficient, for all Issues: Convexity $P = \Sigma$ Convexity x Portfolio Coefficient, for all Issues; or, determining, using C^P, Y^P, T^P : Duration, performing S.3 or 1.3, respective S.1 or S.2; Convexity, performing S.4 or 1.4, respective S.1 or S.2 establishing Yield M, means performing processing Formulae 1.2, on portfolio Basis:

(Maturity x Portfolio Coefficient x YTM), for all issues

(Duration x Portfolio Coefficient x YTM), for all issues

(Maturity x Portfolio Coefficient), for all issues

(Duration x Portfolio Coefficient), for all issues

Yield M =

Yield Md =



Portfolio of	U.S. Treas.Notes	3/22/96 -4/25/96	three data points	3/22, 4/3, 4/25
Issue	1)	2)	3)	4)
Maturity	11/96	5/97	10/97	8/98
Coupon	4.3875%	6.125%	5.75%	5.875%
Matur, yrs fr. 3/22	0.647541	1.14481	1.56438	2.40274
Matur, yrs fr. 4/3	0.614754	1.11475	1.53160	2.36995
Matur, yrs fr. 4/25	0.505464	1.05464	1.46995	2.30601
Ask Yield, 3/22	5.23%	5.58%	5.60%	5.79%
Ask Yield, 4/3	5.34%	5.53%	5.63%	5.85%
Ask Yield, 4/25	5.26%	5.59%	5.75%	5.98%
Price 3/22	99:12	100:19	100:03	100:04
Price 4/3	99:13	100:19	100:01	100:00
Price 4/25	99:14 .	100:16	99:28	99:20
Face Value	\$70,000,000	\$100,000,000	\$40,000,000	\$120,000,000
AI, 3/22	\$1,082,490	- 0 -	\$999,180	\$693,443
AI, 4/3	\$1,193,186	\$217,555	\$1,074,590	\$924,590
AI, 4/25	\$1,367,797	\$585,724	\$1,219,126	\$1,367,623
Full Value 3/22	\$70,644,990	\$100,593,750	\$41,036,680	\$120,843,443
Full Value 4/3	\$70,767,561	\$1000,811,305	\$41,012,090	\$120,924,590
Full Value 4/25	\$70,974,047	\$101,085,724	\$41,169,126	\$120,917,623
	5)	6)	7)	
Maturity	3/99	6/00	2/01	
Coupon	5.875%	5.875%	5.625%	
Matur, yrs fr. 3/22	2.98082	4.23288	4.90274	
Matur, yrs fr. 4/3	2.94804	4.20009	4.86995	
Matur, yrs fr. 4/25	2.88524	4.13661	4.80601	
Ask Yield, 3/22	5.87%	6.04%	6.03%	
Ask Yield, 4/3	5.90%	6.04%	6.04%	
Ask Yield, 4/25	6.07%	6.25%	6.28%	
Price 3/22	99:30	99:10	98:07	
Price 4/3	99:28	99:11	98:07	
Price 4/25	99:11	98:16	97:05	
Face Value	\$40,000,000	\$80,000,000	\$60,000,000	
AI, 3/22	\$44,945	\$1,258,470	\$331,967	
Al, 4/3	\$121,995	\$1,412,568	\$442,623	
A1, 4/25	\$269,672	\$1,707,923	\$654,713	
Full Value 3/22	\$40,019,945	\$80,708,470	\$59,263,217	
Full Value 4/3	\$40,071,995	\$80,887,568	\$59,373,873	
Full Value 4/25	\$40,007,172	\$80,507,923	\$58,948,463	



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Portfolio Coefficient, for each Issue = Present Value¹/Present Value²; Present $Value^{I} = (AI + (Bid Price x FaceValue), for each Issue;$

Present Value^P = Σ (AI+(Bid Price x Face Value), for all Issues

Face Value^P = Σ Face Value, for all Issues:

Present (Full) Value^P = Σ (AI + (Bid Price x Face Value), for all Issues;

Accrued Interest^P = Σ Accrued Interest, AI, for all Issues;

Implied Price^P = (Present Value^P – AI^P)/ Σ Face Value for all Issues

 $C^P = Cash Flow^P = \Sigma C \times Portfolio Coefficient, for all Issues:$

 $T^P = Time^P = \Sigma$ Maturity x Portfolio Coefficient, for all Issues;

 $Y^P = Yield^P = \Sigma Yield \times Portfolio Coefficient, for all Issues$

Duration^P = Σ Duration x Portfolio Coefficient, for all Issues;

Convexity $P = \Sigma$ Convexity x Portfolio Coefficient, for all Issues

Figure 15

	Aggregate Data Va	alues for Portfolio	·
Date	3/22/96	4/3/96	4/25/96
Face Value ^P	\$510,000,000	\$510,000,000	\$510,000,000
Accrued Interest ^P	\$4,749,907	\$5,387,107	\$7,172,578
Present Value ^P	\$513,449,907	\$513,848,982	\$513,610,078
Implied Price ^P	0.99745098	0.99698407	0.99301471
Portfolio Coefficient			
11/96	.1375888	.1377205	.138186
5/97	.1959174	.1961886	.196814
10/97	.0799234	.0798135	.196814
8/98	.2353559	.235331	.235427
3/99	.0779432	.077984	.077894
6/00	.1572929	.157415	.156749
2/01	.1159784	.115547	.114773
Coupon ^P	5.680331%	5.680322%	5.667059%
Maturity ^P	2.470660	2.437096	2.359601
YTM^{P}	5.730002%	5.755183%	5.859601%
Duration ^P	2.222031	2.191867	2.130696
Convexity ^P	7.847886	7.695562	7.389558

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Figure 16

Date		3/22/96	4/3/96	4/25/96
Maturity ^P (in Years) Maturity ^P (Future Date)		2.470660 2.437096 9/10/98 9/10/98	2.437096	2.359601
				9/5/98
Zero Spot	8/98	5.83%	5.86%	6.04%
_	11/98	5.86%	5.90%	6.09%
linea	r 9/98	5.84%	5.87%	6.06%
fitted	d 9/10/98	5.845%	5.875%	6.065%
Yield M ^P		5.87129004%	5.89269332%	6.0661141%
Yield Md ^P		1 ^P 5.8523%	5.8737%	6.047%
YTM ^P		5.73000157%	5.75518286%	5.8561971%

Figure 17

Time Period	3/22/96 - 4/3/96	4/3/96 - 4/25/96	3/22/96 - 4/25/96
Actual Δ Yield M ^P	0.0002140328	0.0017342077	0.001948241
Actual Δ Yield Md ^P	0.000214	0.001733	0.001947
Actual Δ YTM ^P	0.0002516720	0.0010101424	0.001261814
Duration ^P	2.222031	2.191867	2.222031
Convexity ^P	7.847886	7.695562	7.847886
Estimated Δ Price ^P , Yield M		-0.00378958	-0.004314158
Estimated Δ Price ^P , Yield M		-0.00378695	-0.004311419
Estimated \triangle Price ^P , YTM ^P		-0.00221017	-0.002796069
Actual Δ Price ^P	-0.000466911	-0.003969363	-0.004436274
% Accuracy Yield M ^P	98.2%	95.5%	97.2%
% Accuracy Yield Md ^P	98.2%	95.4%	97.2%
% Accuracy YTM ^P	83.5%	55.7%	63.1%

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Figure 18

~	A /A A /A C		
Date	3/22/96	4/3/96	4/25/96
Coupon ^P	5.680330985%	5.680322119%	5.66705895%
Maturity ^P	2.4706604	2.437096	2.359601
YTM ^P	5.73000157%	5.75518286%	5.8561971%
Price ^P	99.745098	99.698407	99.301471
Duration, determined	using above single aggrega	ate C^P , Y^P , T^P values:	
K (1.3)	-2.25389446	-2.21483844	-2.10426651
Prior Art (S.3)	2.09611877	2.07102626	2.01633865

Figure 19

riod	3/22/96 - 4/3/96	4/3/96 - 4/25/96	3/22/96 - 4/25/9
K	-2.25389446	-2.21483844	-2.10426651
Convexity ^P	7.847886	7.695562	7.847886
δΥ	0.0002071580	0.0017921768	0.001968276
ocessing estimated Δ Pri		• `	
ocessing estimated Δ Price	$ce = (K \times \delta Y) + (0.64)$ -0.000466744	5 x Convexity ^P x (δ) -0.003957023	(') ²): -0.004421085
•		• `	
Estimated Δ Price	-0.000466744	-0.003957023	-0.004421085

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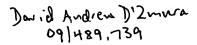
Figure 20

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-1-3			
Convexity, V vs. Prior Art			
Date	3/22/96	4/3/96	4/25/96
D			
Yield M ^P	5.87129004%	5.89269332%	6.0661141%
YTM ^P	5.73000157%	5.75518286%	5.8561971%
Yield M ^P – YTM ^P (bp spread)	0.14128852	0.13751046	0.2099176
Coupon ^P	5.680330985%	5.680322119%	5.66705895%
Maturity ^P	2.4706604	2.437096	2.359601
Price ^P (N/A for V)	99.745098	99.698407	99.301471
process determining Convexi	ty, using above single	e aggregate C ^P , Y ^P , T ^P v	alues:
V (1.4c, Yield M ^P)	6.41019700	6.25535943	5.88053355
V (1.4c, YTM ^P)	6.44053175	6.28389014	5.92058762
V (1.4cv, Yield M ^P – YTM ^P)	6.84893917	7.14436415	2.89621154
V (1.4cv, Yield M ^P)	0.00404544	0.00396111	0.00360859
Prior Art (S.4, YTM ^P)	6.05221587	5.91149933	5.60084222
Market Spot Yield	5.845%	5.875%	6.065%
Yield M – Zero Spot	0.026%	0.018%	0.001%
Tield Wi Zelo Spot	0.02070	0.01070	0.001/0

Figure 21

Period	3/22/96 - 4/3/96	4/3/96 - 4/25/96	3/22/96 - 4/25/96
δΥ	0.0002071580	0.0017921768	0.001968276
K	-2.25389446	-2.21483844	-2.25389446
V (1.4cv, b.p. spread)	6.84893917	7.14436415	6.84893917
V (1.4c, Yield M)	6.41019700	6.25535943	6.41019700
V (1.4cv, Yield M)	0.00404544	0.00396111	0.00404544
processing 1.10, estimated Δ	Price = $(K \times \delta Y)$	$+ (0.5 \times V \times (\delta Y)^2)$:	
Actual Δ Price	-0.000466911	-0.003969363	-0.004436274
Est. Δ P (V=1.4cv, spread)	-0.000466766	-0.003957909	-0.004423097
Accuracy %	99.97%	99.71%	99.70%
Error %	0.03%	0.29%	0.30%
Est. $\triangle P (V=1.4c \text{ YieldM}^P)$	-0.000466775	-0.003959336	-0.004423869
Accuracy %	99.97%	99.75%	99.72%
Error %	0.03%	0.25%	0.28%
Est. $\triangle P$ (V=1.4cv YieldM ^{P)}	-0.000466912	-0.003969376	-0.004436279
Accuracy %	99.99979%	99.99967%	99.99989%
Error %	0.00021%	0.00033%	0.00011%







1.10	Estimated \triangle Price = $(K \times \delta Y) + (\frac{1}{2} \times V \times (\delta Y)^2)$
	where $\delta Y = \Delta Y = \Delta Y$ ield M; approximated Δ zero spot, or Δ Price/K;
	K = Duration, e.g. Formula 1.3 and V = Convexity, e.g. Formula 1.4.

1.10k
$$\Delta$$
 Price, due to Duration (K) = K × Δ Y

1.10v
$$\Delta$$
 Price, due to Convexity $(V) = \frac{1}{2} \times V \times (\Delta Y)^2$.

Figure 23

1.11
$$\Delta \text{ Price} = (-|\text{Duration}| \times \delta Y) + (\frac{1}{2} \times \text{Convexity} \times (\delta Y)^2)$$

where $\delta Y \cong \Delta Y = \Delta$



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Figure 24

utilizing data values for each issue's endogenous variables of C, Y, T, per Formula 1.1;

utilizing data values for each issue's exogenous variable of Price, incl. Accrued Interest: $P = f\{C, Y, T\}$ generating the portfolio coefficient for each issue in portfolio, per Formula 1.5, 1.5a, 1.5b: determining Yield M, means processing Formulae 1.2 or 1.2d, on single portfolio Basis: (Maturity x Portfolio Coefficient x YTM), for all issues Yield M =(Maturity x Portfolio Coefficient), for all issues Yield Md = (Duration x Portfolio Coefficient x YTM), for all issues (Duration x Portfolio Coefficient), for all issues determining duration and convexity variable data values on singular Basis prior art values per Formulae S.3, S.4 K and V values, Formulae 1.3, 1.4 estimating \triangle Price = $(-|Duration| \times \delta Y) + (\frac{1}{2} \times Convexity \times (\delta Y)^2)$ by factorization, Formulae S.5 by factorization, Formulae 1.10 if over two distinct points in time, Δ Price twixt endpoints, determine $\delta Y = \Delta Y$ $\Delta Y = \Delta Y$ ield M, of end Yield M – start Yield M, using value of Duration and Convexity at start point

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```
S.2c semi-annual P = PR= ((C/Y)*(1-(1+(Y/2))^(-2*T))+(1+(Y/2))^(-2*T) where C, Y and P are decimal values, T=Maturity in years

S.2cn generalized P = PRBOND = ((C/Y)*(1-(1+(Y/N))^(-N*T))+(1+(Y/N))^(-N*T) where N=n= periodic C per annum, e.g. semi-annual=2, T=Maturity in years
```

Figure 25B

S.3c	semi-annual	Durmodan=DURMOD=((((C/2)/((Y/2)^2))*(1-(1/((1+(Y/2))^(2*T))))) +((2*T*(100-((C/2)/(Y/2))))/((1+(Y/2))^((2*T)+1))))/(2*P)
		where T = Maturity in years; P = Price (of 100)
S.3cn	generalized	$ \begin{aligned} & \text{Durmodan=DURMD=} ((((C/N)/((Y/N)^2))^*(1-(1/((1+(Y/N))^(N^*T)))) \\ & + (((N^*T)^*(100-((C/N)/(Y/N))))/((1+(Y/N))^*((N^*T)+1))))/(2^*P) \end{aligned} $
	where	N=n= cash receipts per annum, e.g. semi-annual=2; T=Maturity in years

Figure 25C

```
S.4c semi-annual Convex = CON = (((C/((Y/2)^3))^*(1-(1/((1+(Y/2))^*(2*T)))))
	-((C^*(2*T))/(((Y/2)^2)^*((1+(Y/2))^*((2*T)+1))))
	+(((2*T)^*((2*T)+1)^*(100-(C/Y)))/((1+(Y/2))^*((2*T)+2))))/(4*P)
	where T = Maturity in years; P = Price (of 100)

S.4cn generalized Convex = CONDP = (((C/((Y/N)^3))^*(1-(1/((1+(Y/N))^*(N*T)))))
	-((C^*(N*T))/(((Y/N)^2)^*((1+(Y/N))^*((N*T)+1))))
	+(((N*T)^*((N*T)+1)^*(100-(C/Y)))/((1+(Y/N))^*((N*T)+2))))/(4*P)
	where N=n = # cash receipts per annum, e.g. semi-annual=2; T=Maturity in years
```

Figure 25D

```
S.5c generalized DeltaP = DP = - (Durmodan)*(CHY) + (0.5*Convex*(CHY^2))
where CHY(discrete)=\DeltaY= (Y<sub>1</sub> - Y<sub>0</sub>), Y<sub>0</sub>=Y at start, Y<sub>1</sub>=Y at second point in time where CHY(continuous)=\deltaY= (Y<sub>1</sub> - Y<sub>0</sub>), Y<sub>0</sub>=Y at start, Y<sub>1</sub>=Y at second (Y<sub>1</sub>\neqY<sub>0</sub>) level and where DeltaP = -abs(Duration S.3cn)*(CHY)+(0.5*(ConvexityS.4cn)*(CHY^2))
```

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Figure 26A

1.2 Yield M = YM = (sum{(Maturity*Portfolio Coefficient*YTM)₁, (M*PC*YTM)₂,...})/
(sum{(Maturity*Portfolio Coefficient)₁, (M*PC)₂,...})

1.2d Yield Md = YMD = (sum{(Duration*PC*YTM)₁, (D*PC*YTM)₂,...})/
(sum{(Duration*Portfolio Coefficient)₁, (D*PC)₂,...})

Figure 26B

```
1.3cw K = DPDY = ((-C/(Y^2))^*(1-((1+(.5*Y))^*(-2*T))))

semi-annual +((C/Y)^*((T+(.5*Y*T))^*((-2*T)-1)))

-((T+(.5*Y*T))^*((-2*T)-1))

where C and Y are decimal values, T=Maturity in years

1.3cn K =BONK= ((-C/(Y^2))^*(1-((1+(Y/N))^*(-N*T))))

generalized +(((C/Y)-1)^*T^*((1+(Y/N))^*((-N*T)-1)))

where N=n= # cash receipts per annum, e.g. semi-annual=2; T=Maturity in years and where BONK and DPDY not returning exact identical values for N=n=2
```

Figure 26C

```
1.4cn
        V
             =BONV=
                           (((2*C)/(Y^3))*(1-(Y/N))^(-N*T)))
generalized
                           -((C/Y^2)*(2*T)*((1+(Y/N))^((-N*T)-1)))
                           -(((C/Y)-1)*(((N*T)+1)*(T/N))*((1+(Y/N))^{((-N*T)-2)))
      where N=n=# cash receipts per annum, e.g. semi-annual=2; T=Maturity in years
1.4cv
             =VEXA=
        V
                           (((2*C)/(Y^3)) - (((2*C)/(Y^3))*((1+(Y/2))^(-2*T)))
spread-based, semi-annual
                           -((C*T)/(Y^2))*((1+(Y/2))^((-2*T)-1))
                           -((C/(Y^2))*((T+(T*(Y/2)))^((-2*T)-1)))
                    +((1+(C/Y))*((T^2)+(T/2))*((T+(T*(Y/2)))^((-2*T)-2))))/10000
             where e.g. Y=YieldM-YTM, Y expressed in decimal, i.e. if Y=0.14%=0.14
1.4cvn V
             =VEX=
                           (((2*C)/(Y^3)) - (((2*C)/(Y^3))*((1+(Y/N))^(-N*T)))
spread-based, generalized
                           -((C*T)/(Y^2))*((1+(Y/N))^((-N*T)-1))
                           -((C/(Y^2))*((T+(T*(Y/N)))^((-N*T)-1)))
                    +((1+(C/Y))*((T^2)+(T/N))*((T+(T*(Y/N)))^((-N*T)-2))))/10000
             where e.g. Y = Yield M, Y expressed in decimal, i.e. if Y = 6.06\% = 0.606
```

Figure 26D

```
1.10c generalized \Delta P = DELTAP = K*(CHY) + (0.5*V*(CHY^2))
and where \Delta P = DELTAP = -abs(Duration 1.3n)*(CHY)+(0.5*(Convexity 1.4cvn)*(CHY^2))
```

Figure 26E

1.11	universal	$\Delta P = DP = -abs(Duration)*(CHY)+(0.5*(Convexity)*(CHY^2))$
		21 21 dos(Daration) (CTT) (0.5 (CONVEXITY) (CTT 2))

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Figure 27



1.111

$$\Delta P = A + B + C + D$$

where,

 ΔP = change in bid price, for given changes in yield and time

 $A = -abs(Duration) \times Price(dirty) \times \Delta Y$

 $B = \frac{1}{2} \times Convexity \times Price(dirty) \times (\Delta Y)^2$

 $C = Theta \times Price(dirty) \times \Delta t$

 $D = -(\Delta \text{ Accrued Interest, for given } \Delta t),$

wherein,

Y (YTM), computed on applicable day-count basis, by Formula S.1 or Formula S.2 Duration and Convexity, standard modified annualized, Formulae S.3 or 1.3, and S.4 or 1.4 Theta (θ) recalculated at cash flow dates, such a theta: $\theta = 2 \ln(1+r/2)$, r = ytm Price (dirty) equals bid price plus accumulated interest

 Δt is the elapsed time between two points in time on which the estimations are made ΔP rounded to nearest pricing gradient per market price convention, ΔP occurring Δt .

Figure 28

$$\Delta Pp = Ap + Bp + Cp + Dp$$

wherein,

p is on a portfolio basis, each security having a portfolio coefficient based on its portion of the present value, with Aggregate Value Calculations for Portfolio implemented, such a (P), establishing the Aggregate Values for Portfolio, comprising the identified process variables. David Andrew D'Zmura 09/489,739



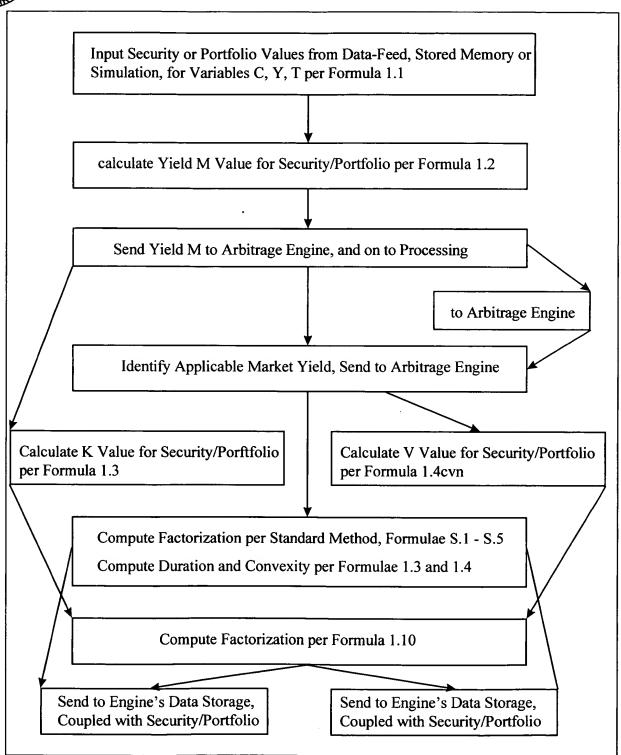
RECEIVED AUG 1 9 2002 GROUP 3600

						Portfolio	1			Date		
Security										3/22/96	3/22/96	
TNote	Maturity	Yrs.toMat.	•	N	YTM S.1	Dura.S.3	Conv.S.4	Bid Price	FaceValue	Acc.Intrst.	Full Value	Portf.Coeff
1)	11/15/96			2		0.637565	0.692376	0.993438	100	1.52661	100.8704	0.142458
2)	5/31/97		0.06125	2		1.147306	1.776839	1.005938	100	1.887842	102.4816	0.144733
3)	10/31/97		0.0575	2	0.05828	1.524786	2.93216	0.99875	100	2.236986	102.112	0.144211
4)	8/15/98	2.4	0.05875	2		2.26254		1.00125	100	0.5875	100.7125	0.142235
5)	3/31/99		0.05875	2		2.738688		0.999375	100		102.7301	0.145084
6)	6/30/00		0.05875	2	0.06057	3.791793	15.0302	_	100	1.311815		0.14211
7)	2/28/01	4.942466	0.05625	2	0.060464	4.361264	19.24553	0.982188	100	0.32363	98.54238	0.13917
Portfolio		2.573496	0.056465	2	0.058074	2.341729	7.633073	0.996295	700	10.66702	708.0733	1
Yield M=	0.059202											
Yield Md=	0.059150											
						Portfolio	1			Date		
Security	A disabilished	Van Andres	0		\CT14.0.4	D 0.6	0	D: 1 D :		4/3/96		
TNote	Maturity	Yrs.toMat.	•	N	YTM S.1	Dura.S.3	Conv.S.4				Full Value	_
1)	11/15/96		0.043875	2		0.604598		0.99375	100	1.670856	101.0459	0.143068
2)		1.158904 1.578082	0.06125 0.0575	2	0.055804	1.114524	1.697799	1.005938	100		102.683	0.145386
3)	10/31/97 8/15/98		0.0575	2	0.058518	1.491798 2.229469	2.83211 5.589092	0.998438	100	2.426027	102.2698	0.144801
4) 5)	3/31/99		0.05875	2	0.056/12	2.229469		0.99875	100 100	0.780651 0.048288	100.7807 99.92329	0.142692 0.141479
6)		4.243836	0.05875	2	0.060498	3.758908		0.993438		1.504966		
7)		4.243636	0.05625	2	0.060498	4.328625		0.993438	100 100	0.508562	100.8487 98.72731	0.142789 0.139785
Portfolio	22001	2.538885	0.056455	2			7.499582		700		706,2786	0.139765
Yield M=	0.059334	2.00000	3.000-00	2	0.000100	2.010001	7.700002	J.55007 1	,00	3.020302	100.2100	'
Yield Md=	0.059285											
						Portfolio	1			Change i	n Price	
	from	0.00000		_						Onango i		
Security		3/22/96		to	4/3/96		dP (of 100 i	nar)				
		3/22/96		to	4/3/96 A+	B+	dP (of 100)		dP (P of 10	10)		
T-Note	Dura.S.3				A+	B+ dConvex	C+	D=	dP (P of 10 dBid Price	•	Actual A P	Arb Differ
T-Note	Dura.S.3 0.637565	Conv.S.4	Theta	Δ ΥΤΜ	A+ dDuration	dConvex	C+ dTheta	D= dAccint	dBid Price	RounddP	Actual Δ P	
T-Note 1)		Conv.S.4 0.692376		Δ ΥΤΜ	A+	dConvex	C+	D=	•	•	Actual Δ P 0.03125 0	-0.00045
T-Note	0.637565	Conv.S.4 0.692376	Theta 0.053493 0.055173	Δ YTM 3.66E-05	A+ dDuration -0.00235	dConvex 4.68E-08	C+ dTheta 0.177398 0.185891	D= dAccInt -0.14425	dBid Price 0.030797	RounddP 0.03125	0.03125	
T-Note 1) 2)	0.637565 1.147306	Conv.S.4 0.692376 1.776839 2.93216	Theta 0.053493 0.055173 0.057447	∆ YTM 3.66E-05 -0.00014	A+ dDuration -0.00235 0.01612	dConvex 4.68E-08 1.71E-06	C+ dTheta 0.177398 0.185891	D= dAccint -0.14425 -0.20137	dBid Price 0.030797 0.000643	RounddP 0.03125 0	0.03125 0	-0.00045 0.000643
T-Note 1) 2) 3)	0.637565 1.147306 1.524786	Conv.S.4 0.692376 1.776839 2.93216 5.724236	Theta 0.053493 0.055173 0.057447	Δ YTM 3.66E-05 -0.00014 0.000238	A+ dDuration -0.00235 0.01612 -0.03706	dConvex 4.68E-08 1.71E-06 8.48E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809	D= dAccint -0.14425 -0.20137 -0.18904	dBid Price 0.030797 0.000643 -0.03324	RounddP 0.03125 0 -0.03125	0.03125 0 -0.03125	-0.00045 0.000643 -0.00199
T-Note 1) 2) 3) 4)	0.637565 1.147306 1.524786 2.26254	Conv.S.4 0.692376 1.776839 2.93216 5.724236	Theta 0.053493 0.055173 0.057447 0.057325	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315	dBid Price 0.030797 0.000643 -0.03324 -0.13033	RounddP 0.03125 0 -0.03125 -0.125	0.03125 0 -0.03125 -0.125	-0.00045 0.000643 -0.00199 -0.00533
T-Note 1) 2) 3) 4) 5)	0.637565 1.147306 1.524786 2.26254 2.738688	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579	Theta 0.053493 0.055173 0.057447 0.057325 0.058119	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775	RounddP 0.03125 0 -0.03125 -0.125 -0.0625	0.03125 0 -0.03125 -0.125 -0.0625	-0.00045 0.000643 -0.00199 -0.00533 0.014746
T-Note 1) 2) 3) 4) 5)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375	D= dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375	D= dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568 0.057246	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568 0.057246	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568 0.057246	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual Δ P -0.0625	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.03486	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775 0.032015	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073 rbitrage D RounddP -0.0625 0.03125	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059671 0.059568 0.057246	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.03486 Arb.Differ.	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 6) 2)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual Δ P -0.0625	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.034 -0.03486 Arb.Differ.	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585 1	D= dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 6) 2) 7)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775 0.032015 0.000643 -0.00044	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073 Proitrage D RounddP -0.0625 0.03125	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual Δ P -0.0625 0.03125	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.034 -0.03486 Arb.Differ. 0.014746 0.000765	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585 1	D= dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 -0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 6) 2) 7) 1)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775 0.032015 0.000643	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073 Proitrage D RounddP -0.0625 0.03125	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual \(\Delta \) P -0.0625 0.03125	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.08702 0.027757 -0.00849 -0.02838 -0.034 -0.03486 Arb.Differ. 0.014746 0.000765 0.000643	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585 1 Portfolio	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 6) 2) 7) 1) 3)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775 0.032015 0.00643 -0.00044 0.030797 -0.03324	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073 rbitrage D RounddP -0.0625 0.03125	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual Δ P -0.0625 0.03125	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.034 -0.03486 Arb.Differ. 0.014746 0.000765 0.000643 -0.00044	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585 1 Portfolio	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171
T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 6) 2) 7) 1)	0.637565 1.147306 1.524786 2.26254 2.738688 3.791793 4.361264 2.341729 0.000132 0.000135 Sort by A dBid Price -0.04775 0.032015 0.000643 -0.00044 0.030797	Conv.S.4 0.692376 1.776839 2.93216 5.724236 8.449579 15.0302 19.24553 7.633073 rbitrage D RounddP -0.0625 0.03125 0 0.03125	Theta 0.053493 0.055173 0.057447 0.057325 0.058119 0.059568 0.057246 ifferential Actual Δ P -0.0625 0.03125 0 0 0.03125	Δ YTM 3.66E-05 -0.00014 0.000238 0.000558 0.000238 -7.3E-05 1.98E-05	A+ dDuration -0.00235 0.01612 -0.03706 -0.12708 -0.06702 0.027757 -0.00849 -0.02838 -0.034 -0.03486 Arb.Differ. 0.014746 0.000765 0.000643 -0.00044	dConvex 4.68E-08 1.71E-06 8.48E-06 8.96E-05 2.46E-05 4E-06 3.7E-07 1.84E-05 7.29E-06 7.67E-06	C+ dTheta 0.177398 0.185891 0.192856 0.189809 0.196292 0.197404 0.192986 0.190375 0.207585 1 Portfolio \ T-Note Portfolio \ Yield M	D= dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833 -0.1833 -0.1833 -0.1833 -0.1833	dBid Price 0.030797 0.000643 -0.03324 -0.13033 -0.04775 0.032015 -0.00044 -0.02129 -0.00971 -0.01057	RounddP 0.03125 0 -0.03125 -0.125 -0.0825 0.03125 0	0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	-0.00045 0.000643 -0.00199 -0.00533 0.014746 0.000765 -0.00044 0.001171



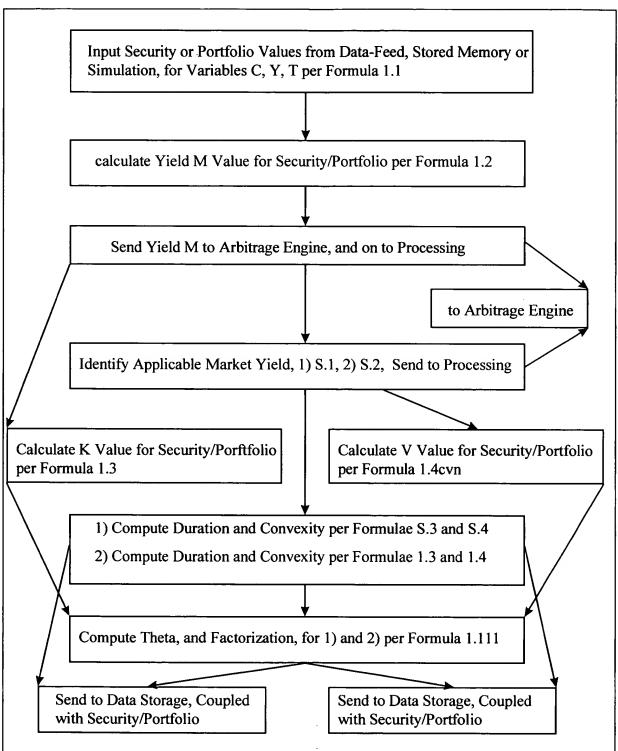
			•			Portfolio	1			Date		
Security										3/22/96		
TNote	Maturity	Yrs.toMat.	Coupon	N	YTM S.2	Dura.1.3	Conv.1.4	Bid Price	FaceValue	Acc.Intrst.	Full Value	Portf.Coet
1)	11/15/96	0.652055	0.043875	2	0.054254	-0.62859	0.70427	0.993438	100	1.52661	100.8704	0.14245
2)	5/31/97	1.191781	0.06125	2	0.05603	-1.14238	1.866949	1.005938	100	1.887842	102.4816	0.14473
3)	10/31/97	1.610959	0.0575	2	0.058324	-1.51533	3.075528	0.99875	100	2.236986	102.112	0.14421
4)	8/15/98	2.4	0.05875	2	0.058184	-2.21188	6.118934	1.00125	100	0.5875	100.7125	0.14223
5)	3/31/99	3.024658	0.05875	2	0.058979	-2.73254	9.127492	0.999375	100	2.792637	102.7301	0.145084
6)	6/30/00	4.276712	0.05875	2	0.060599	-3.70301	16.54068	0.993125	100	1.311815	100.6243	0.1421
7)	2/28/01	4.942466	0.05625	2	0.060473	-4.17283	21.13105	0.982188	100	0.32363	98.54238	0.1391
Portfolio		2.573496		2	0.05811	-2.29144	8.30004	0.996295	700		708.0733	
Yield M=	0.059228											
Yield Md=	0.059161											
0						Portfolio	1			Date		
Security	Makudh :	Van Achter	C	N.	VTM C C	D 4.0	0	Dia Date	C) (-1	4/3/96	c	D46 0 -
TNote	Maturity	Yrs.toMat.	•	N	YTM S.2	Dura.1.3	Conv.1.4		FaceValue			
1)	11/15/96	0.619178			0.054276	-0.59751	0.650485	0.99375	100	1.670856		0.143068
2)	5/31/97	1.158904	0.06125	2		-1.11203	1.782746	1.005938	100	2.089212		0.145386
3)		1.578082	0.0575	2		-1.48514			100	2.426027		0.14480
4)	8/15/98	2.367123	0.05875	2	0.05875	-2.1802		1	100	0.780651		0.142692
5)	3/31/99	2.991781	0.05875	2		-2.70327	8.947306	0.99875	100	0.048288		0.141479
6)	6/30/00	4.243836	0.05875	2		-3.67928	16.32761	0.993438	100	1.504966		0.142789
7)	2/28/01	4.909589	0.05625	2	0.060498	-4.14867	20.88824	0.982188	100	0.508562	98.72731	0.139785
Portfolio		2.538885	0.056455	2	0.058228	-2.26104	8.150018	0.996071	700	9.028562	706.2786	1
Yield M=	0.059359											
	0.00000											
Yield Md=	0.059296											
Yiela Ma=	0.059296					Portfolio	1			Change i	n Price	
Yield Ma=		3/22/96		to	4/3/96	Portfolio		nar)		Change i	n Price	
	0.059296	3/22/96		to	4/3/96 A		dP (of 100				n Price	
Security	from		Theta		Α	В	dP (of 100 C	D	dP (P of 10	0)		Ach Diffor
Security T-Note	from Dura. 1.3	Conv.1.4	Theta	ΔΥΤΜ	A dDuration	B dConvex	dP (of 100 C dTheta	D dAccInt	dP (P of 10 dBid Price	0) RounddP	Actual A P	
Security T-Note 1)	from Dura. 1.3 -0.62859	Conv.1.4 0.70427	0.053531	Δ YTM 2.16E-05	A dDuration -0.00137	B dConvex 1.66E-08	dP (of 100 C dTheta 0.177526	D dAccInt -0.14425	dP (P of 10 dBid Price 0.031907	0) RounddP 0.03125	Actual & P 0.03125	0.000657
Security T-Note 1) 2)	from Dura. 1.3 -0.62859 -1.14187	Conv.1.4 0.70427 1.865863	0.053531 0.05526	Δ YTM 2.16E-05 -0.00014	A dDuration -0.00137 0.016745	B dConvex 1.66E-08 1.96E-06	dP (of 100 C dTheta 0.177526 0.186185	D dAccInt -0.14425 -0.20137	dP (P of 10 dBid Price 0.031907 0.001561	0) RounddP 0.03125 0	Actual Δ P 0.03125 0	0.000657 0.001561
Security T-Note 1) 2) 3)	from Dura. 1.3 -0.62859 -1.14187 -1.51851	Conv.1.4 0.70427 1.865863 3.083538	0.053531 0.05526 0.05749	Δ YTM 2.16E-05 -0.00014 0.000226	A dDuration -0.00137 0.016745 -0.03511	B dConvex 1.66E-08 1.96E-06 8.07E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193	D dAccInt -0.14425 -0.20137 -0.18904	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114	0) RounddP 0.03125 0	Actual Δ P 0.03125 0 -0.03125	0.000657 0.001561 0.000106
Security T-Note 1) 2) 3)	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015	Conv.1.4 0.70427 1.865863 3.083538 6.113276	0.053531 0.05526 0.05749 0.057354	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566	A dDuration -0.00137 0.016745 -0.03511 -0.12589	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904	0) RounddP 0.03125 0 0 -0.125	Actual Δ P 0.03125 0 -0.03125 -0.125	0.000657 0.001561 0.000106 -0.00404
Security T-Note 1) 2) 3) 4)	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469	0.053531 0.05526 0.05749 0.057354 0.058126	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621	0) RounddP 0.03125 0 0 -0.125 -0.0625	Actual \triangle P 0.03125 0 -0.03125 -0.125 -0.0625	0.000657 0.001561 0.000106 -0.00404 0.016289
Security T-Note 1) 2) 3) 4) 5)	from Dura. 1.3 -0.62859 -1.14187 -1.1851 -2.21015 -2.7315 -3.70022	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125	Actual \triangle P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05
Security T-Note 1) 2) 3) 4) 5) 6)	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014	D dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206	0) RounddP 0.03125 0 0 -0.125 -0.0625	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206
Security T-Note 1) 2) 3) 4) 5)	from Dura. 1.3 -0.62859 -1.14187 -1.1851 -2.21015 -2.7315 -3.70022	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125	Actual \triangle P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M=	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491	D dAccint -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M=	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M=	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131 0.000136 Sort by A	Conv.1.4 0.70427 1.865863 3.08538 6.113276 9.123469 16.52665 21.10424 8.293923	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062	0) RounddP 0.03125 0 0 -0.125 -0.0625 0.03125	Actual Δ P 0.03125 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131 0.000136 Sort by A	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783 -0.03317 -0.03429	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062 -0.00876 -0.00988	0) RounddP 0.03125 0 0 -0.125 -0.0625 0.03125	Actual Δ P 0.03125 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	from Dura. 1.3	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783 -0.03317 -0.03429 Arb.Differ. 0.016289	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.19315 -0.18493 -0.1833 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062 -0.00876 -0.00988	0) RounddP 0.03125 0 0 -0.125 -0.0625 0.03125 0	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0-0.02246 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	from Dura. 1.3 -0.62859 -1.14187 -1.51851 -2.21015 -2.7315 -3.70022 -4.16808 -2.29036 0.000131 0.000136 Sort by A dBid Price -0.04621 0.001561	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923 rbitrage D RounddP -0.0625	0.053531 0.05526 0.05749 0.057354 0.059699 0.059577 0.057281 Differential Actual Δ P -0.0625	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783 -0.03317 -0.03429 Arb.Differ. 0.016289 0.001561	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.00206 -0.02062 -0.00876 -0.00988 YTM, Yield	0) RounddP 0.03125 0 0 -0.125 -0.0625 0.03125 0	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	from Dura. 1.3	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923 rbitrage D RounddP -0.0625 0	0.053531 0.05526 0.05749 0.057354 0.059699 0.059699 0.057281 0.057281 Actual Δ P -0.0625 0	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783 -0.03317 -0.03429 Arb.Differ. 0.016289 0.001561 0.000657	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.002062 -0.00876 -0.00988 YTM, Yield dBid Price -0.02062	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125 0	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246 -0.02246 Arb.Differ. 0.001841	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md= Security 5) 5) 1) 3)	from Dura. 1.3	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923 rbitrage D RounddP -0.0625 0 0.03125	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281 Differential Actual \triangle P -0.0625 0 0.03125 -0.03125	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.03429 Arb.Differ. 0.016289 0.001561 0.000657 0.000106	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.18493 -0.1833 -0.1833 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.002062 -0.00876 -0.00988	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125 0 d M and M	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246 -0.02246 Arb.Differ. 0.001841 0.013704	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841
Security T-Note 1) 2) 3) 4) 5) 6) 7) Portfolio ΔYield M= ΔYield Md=	from Dura. 1.3	Conv.1.4 0.70427 1.865863 3.083538 6.113276 9.123469 16.52665 21.10424 8.293923 rbitrage D RounddP -0.0625 0	0.053531 0.05526 0.05749 0.057354 0.058126 0.059699 0.059577 0.057281 Differential Actual Δ P -0.0625 0 0 0.03125 -0.03125	Δ YTM 2.16E-05 -0.00014 0.000226 0.000566 0.000233 -7.2E-05 2.47E-05	A dDuration -0.00137 0.016745 -0.03511 -0.12589 -0.0655 0.026929 -0.01015 -0.02783 -0.03317 -0.03429 Arb.Differ. 0.016289 0.001561 0.000657	B dConvex 1.66E-08 1.96E-06 8.07E-06 9.85E-05 2.55E-05 4.35E-06 6.35E-07 1.99E-05 7.89E-06 8.43E-06	dP (of 100 C dTheta 0.177526 0.186185 0.193 0.189905 0.196316 0.197496 0.193014 0.190491 0.20771	D dAccInt -0.14425 -0.20137 -0.18904 -0.19315 -0.17705 -0.19315 -0.18493 -0.1833 -0.1833 -0.1833	dP (P of 10 dBid Price 0.031907 0.001561 -0.03114 -0.12904 -0.04621 0.031279 -0.002062 -0.00876 -0.00988 YTM, Yield dBid Price -0.02062	0) RounddP 0.03125 0 -0.125 -0.0625 0.03125 0 d M and M	Actual Δ P 0.03125 0 -0.03125 -0.125 -0.0625 0.03125 0 -0.02246 -0.02246 -0.02246 Arb.Differ. 0.001841	0.000657 0.001561 0.000106 -0.00404 0.016289 2.9E-05 -0.00206 0.001841



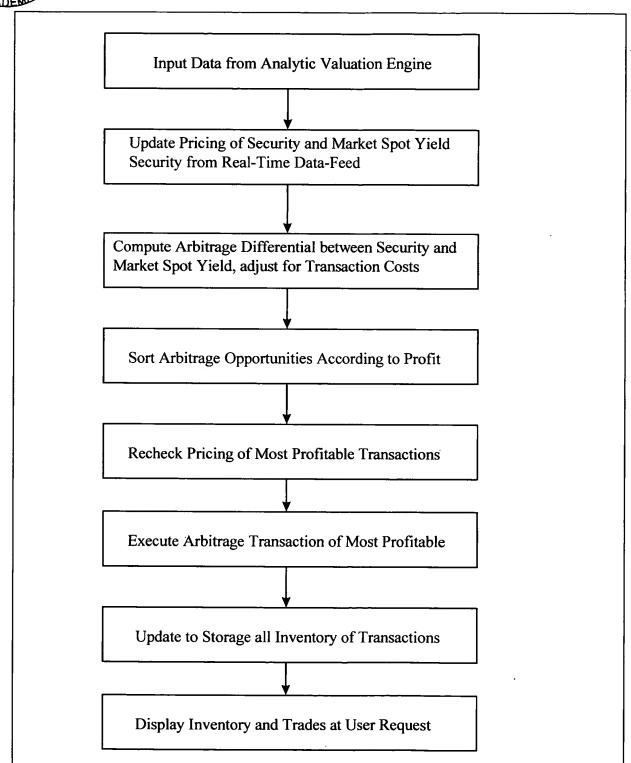








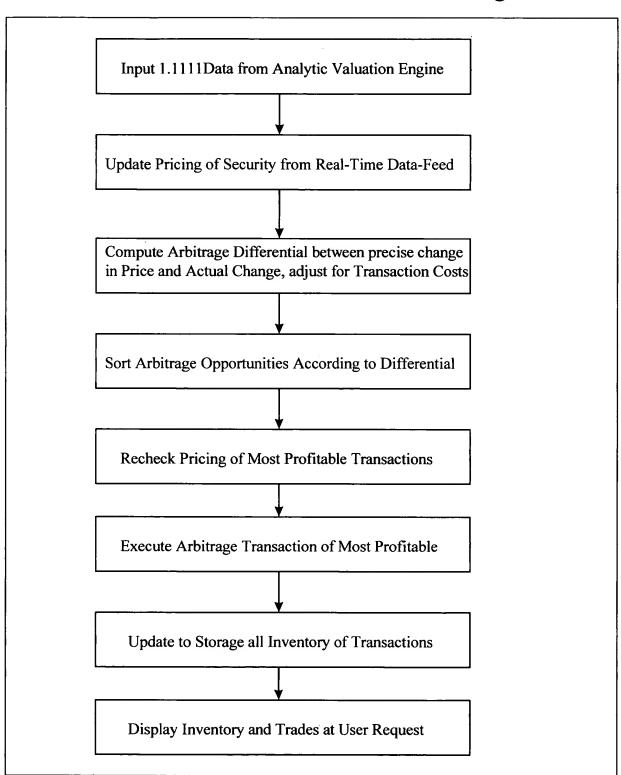






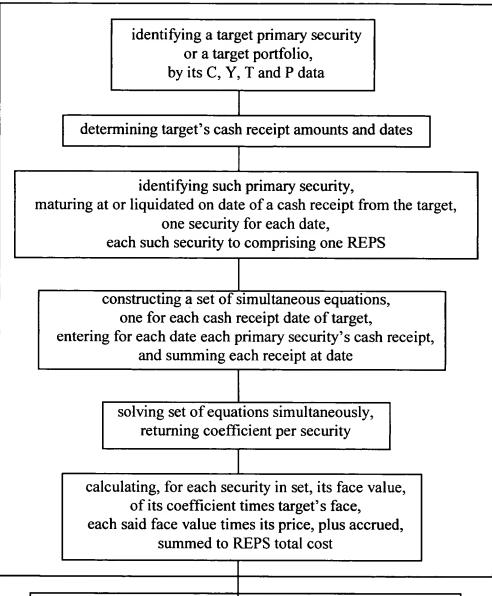








RECEIVED AUG 1 9 2002 GROUP 3600



identifying each primary security in REPS by its duration

identifying the duration data for the REPS,
for each security in REPS,
its REPS coefficient times duration,

summed to REPS duration.

David Andrew D'Zmura 09/484,739



RECEIVED AUG 1 9 2002 GROUP 3600



AUG 1 4 2002

X										
Replicant A: Replicated Equivalent Primary Security (using intermediate T-Notes)										
	1)	2)	3)							
Maturity:	5/96	11/96	5/97							
Matur, yrs. fr. 4/3/96	.114754	.614754	1.114754							
Coupon:	7.375%	7.25%	8.50%							
Cheapest Ask Yield:	4.46%	5.28%	5.48%							
Bid Prices:	100:07; same	101:03; same	103:04; same							
Ask Prices:	100:09; :10	101:05; :06	103:06; :07							
Repl. Coefficient:	-0.8895348	-0.9222442	-0.95576775							
Face Value:	(\$444,767)	(\$461,121)	(\$477,887)							
Best Price:	(\$445,740)	(\$446,165)	(\$492,821)							
Accrued Interest:	(\$12,636)	(\$12,968)	(\$15,649)							
Total Cost (P+AI):	(\$458,376)	(\$479,133)	(\$508,470)							
Duration (mod. ann.):	(0.113957)	(0.597015)	(1.059356)							
Convexity (mod. ann.)	(0.068846)	(0.647529)	(1.651005)							
	()	(3.3)	(1.02.1003)							
	4)	5)	6)							
Maturity:	11/97	5/9 8	11/98							
Matur, yrs. fr. 4/3/96	1.614754	2.114754	2.614754							
Coupon:	8.875%	9.00%	8.875%							
Cheapest Ask Yield:	5.71%	5.78%	5.85%							
Bid Prices:	104:23; same	106:07; same	107:03; :02							
Ask Prices:	104:25; :27	106:07; same	107:03; :06							
Repl. Coefficient:	-0.9963879	-1.0406026	-1.0874297							
Face Value:	(\$498,193)	(\$520,302)	(\$543,715)							
Best Price:	(\$521,702)	(\$552,658)	(\$582,285)							
Accrued Interest:	(\$17,034)	(\$18,040)	(\$18,590)							
Total Cost (P+AI):	(\$538,736)	(\$570,698)	(\$600,875)							
Duration (mod. ann.):	(1.500120)	(1.923568)	(2.334071)							
Convexity (mod. ann.)	(3.035738)	(4.776208)	(6.855101)							
Convexity (mod. ann.)	(3.033736)	(4.770208)	(0.833101)							
	7)									
Motoritan	7) 5/99									
Maturity:										
Matur, yrs. fr. 4/3/96	3.114754									
Chappent Ask Viold	9.125%									
Cheapest Ask Yield: Bid Prices:	5.94%									
Ask Prices:	108:27; :26 108:29; :30									
Repl. Coefficient:	98.864316									
Face Value:	98.864316 \$49,460,543									
Best Price:										
Accrued Interest:	\$53,834,709 \$1,737,723									
Total Cost (P+AI):										
Duration (mod. ann.):	\$55,572,432 2.718305									
Convexity (mod. ann.)										
Convexity (mod. ann.)	9.188165									
Values for Replicant A:	A.A.									
Total Cost:	\$52,416,144									
Duration:	2.610444									



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Replicant B: Replicated	Equivalent Primary S	ecurity (using zero-cou	upon STRIPS)
			
	1)	2)	2)
Materia	1)	2)	3)
Maturity:	5/96	11/96	5/97
Matur, yrs. fr. 4/3/96	.114754	.614754	1.114754
Coupon:	None	None	None
Yield:	5.20%	5.31%	5.55%
Bid Prices:	99:15; same .	96:27; :28	94:04; same
Ask Prices:	99:15; same	96:28; :29	94:04; :05
Face Value:	\$1,687,500	\$1,687,500	\$1,687,500
Total Cost:	\$1,678,535	\$1,634,766	\$1,588,359
	4)	5)	6)
Maturity:	11/97	5/98	11/98
Matur, yrs. fr. 4/3/96	1.614754	2.114754	2.614754
Coupon:	None	None	None
Yield:	5.73%	5.82%	5.90%
Bid Prices:	91:10; same	88:19; same	85:28; :30
Ask Prices:	91:11; same	88:20; same	85:30; 86:00
Face Value:	\$1,687,500	\$1,687,500	\$1,687,500
Total Cost:	\$1,541,426	\$1,495,547	\$1,450,196
	7)		
Maturity:	5/99		
Matur, yrs. fr. 4/3/96	3.114754		
Coupon:	None		
Cheapest Ask Yield:	5.95%		
Bid Prices:	83:08; :10		
Ask Prices:	83:10; :12		
Face Value:	\$51,687,500		
Total Cost:	\$43,062,148		
Values for Replicant B:			
Total Cost:	\$52,450,977		
Duration:	2.828008		



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BB			
Replicant C: Replicated	Equivalent Primary Se	ecurity (using intermed	iate T-Notes)
	1)	2)	2)
Name and the second sec	1) 5/96	2) 11/96	3)
Maturity:			5/97
Matur, yrs. fr. 4/3/96	.114754	.614754	1.114754
Coupon:	7.375%	7.25%	8.50%
Cheapest Ask Yield:	4.46%	5.28%	5.48%
Bid Prices:	100:07; same	101:03; same	103:04; same
Ask Prices:	100:09; :10	101:05; :06	103:06; :07
Repl. Coefficient:	-0.91302988	-0.9466032	-0.98101223
Face Value:	(\$456,515)	(\$473,301)	(\$490,506)
Best Price:	(\$457,514)	(\$478,478)	(\$505,834)
Accrued Interest:	(\$12,970)	(\$13,219)	(\$16,062)
Total Cost (P+AI):	(\$470,484)	(\$491,697)	(\$521,896)
Duration (mod. ann.):	(0.113953)	(0.597015)	(1.059356)
Convexity (mod. ann.)	(0.068843)	(0.647529)	(1.651005)
			,
	4)	5)	6)
Maturity:	11/97	5/98	11/98
Matur, yrs. fr. 4/3/96	1.614754	2.114754	2.614754
Coupon:	8.875%	9.00%	3.50%
Cheapest Ask Yield:	5.71%	5.78%	3.08%
Bid Prices:	104:23; same	106:07; same	100:01; 99:18
Ask Prices:	104:25; :27	106:09; :11	100:01; 100:18
Repl. Coefficient:	-1.0227052	-1.06808799	-1.1161517
Face Value:	(\$511,353)	(\$534,043)	(\$558,076)
Best Price:	(\$535,482)	(\$567,254)	(\$558,250)
Accrued Interest:	(\$17,483)	(\$18,516)	(\$7,525)
Total Cost (P+AI):	(\$552,965)	(\$585,770)	(\$565,775)
Duration (mod. ann.):	(1.500120)	(1.923568)	(2.507384)
Convexity (mod. ann.)	(3.035754)	(4.776208)	(7.597885)
	-		
Naturita II	7)		
Maturity:	5/99	•	
Matur, yrs. fr. 4/3/96	3.114754		
Coupon:	9.125%		
Cheapest Ask Yield:	5.94%		
Bid Prices:	108:27; :26		
Ask Prices:	108:29; :30		
Repl. Coefficient:	98.864316		
Face Value:	\$49,460,543		
Best Price:	\$53,834,709		
Accrued Interest:	\$1,737,723		
Total Cost (P+AI):	\$55,572,432		
Duration (mod. ann.):	2.716745		
Convexity (mod. ann.)	9.182892		
Values for Replicant C:			
Total Cost:	\$52,383,845		
Duration:	2.603796		
	<u> </u>		





Target Security, a U.S. Treasury Note, held to mature 5/15/99, as on April 3, 1996:

Maturity:

May 1999

Coupon:

6.75% per annum, semi-annual payments

Prices: Bid/Ask

102:07; 102:07 / 102:09; 102:11

Face Value:

\$50 million \$51,140,625

Best Price: Accrued Interest:

\$1,300,205

Total Cost (P+AI):

\$52,440,830

Duration (mod. ann.):

2.782972

Figure 40

Target	of Duration 2.7829	can be sold for \$52,409,580	and bought for \$52,440,830
REPS A	2.6104	can be sold for \$52,383,749	and bought for \$52,416,144
REPS B	2.8280	can be sold for \$52,450,920	and bought for \$52,450,977
REPS C	2.6038	can be sold for \$52,351,321	and bought for \$52,383,845

Figure 41

	Arbitrage	Opportunities		Sorted Arbitrage Opportunities					
Buying	Selling	\$ Arb. Differ.	Spread bp	Buying	Selling	\$ Arb. Diff.	Spread br		
Target	Α	-31250	-0.0006	C	В	67075	0.0012		
Target	В	-57081	-0.00109	Α	В	34776	0.000663		
Target	С	-89509	-0.00171	c	Target	25735	0.00049		
Α	Target	-6564	-0.00013	C	Α	-96	-1.8E-0		
Α	В	34776	0.000663	Α	Target	-6564	-0.00013		
Α	С	-64823	-0.00124	Target	Α	-31250	-0.000		
В	Target	-41397	-0.00079	В	Target	-41397	-0.00079		
В	Α	-67228	-0.00128	Target	В	-57081	-0.00109		
В	С	-99656	-0.0019	A	С	-64823	-0.00124		
С	Target	25735	0.000491	В	Α	-67228	-0.00128		
С	Α	-96	-1.8E-06	Target	С	-89509	-0.0017 ²		
С	В.	67075	0.00128	ĺв	С	-99656	-0.0019		



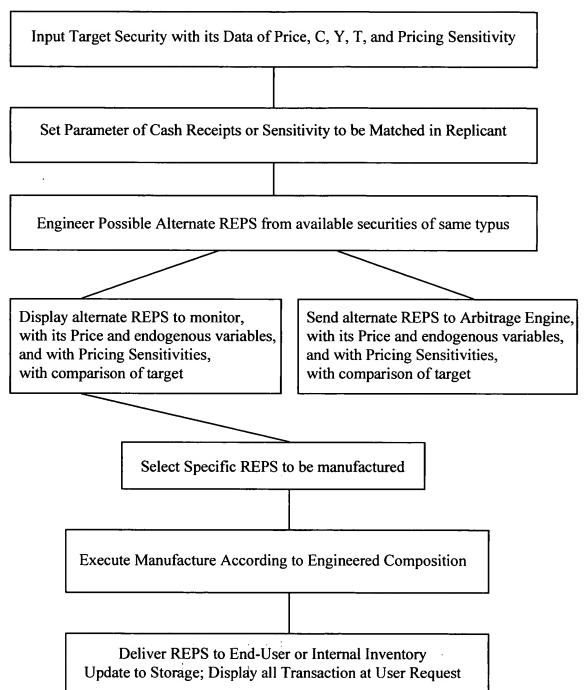
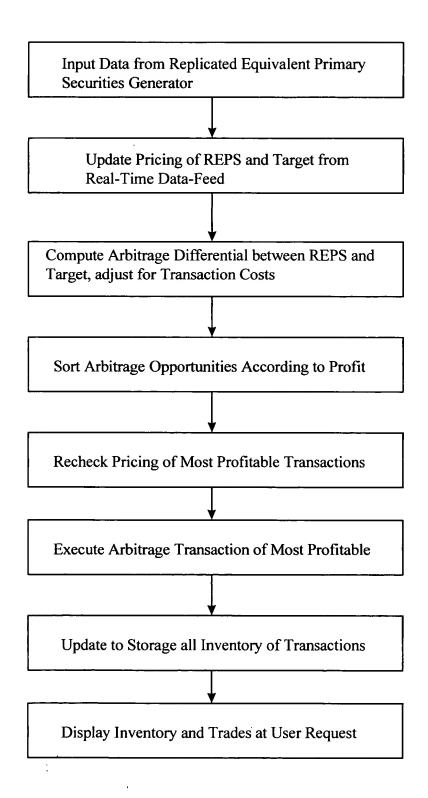






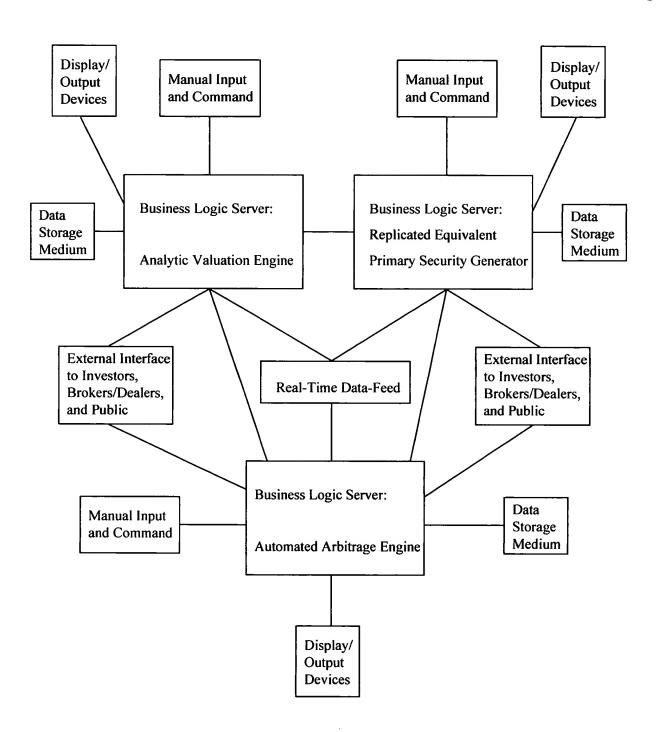
Figure 43

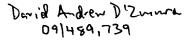


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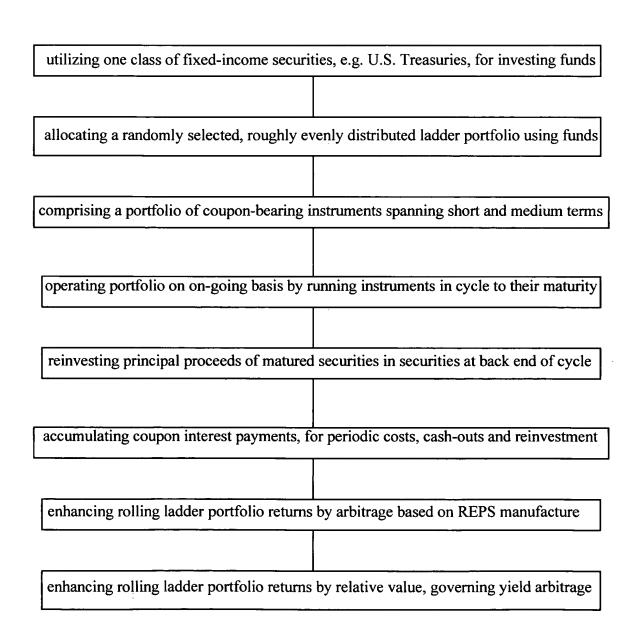
Figure 44







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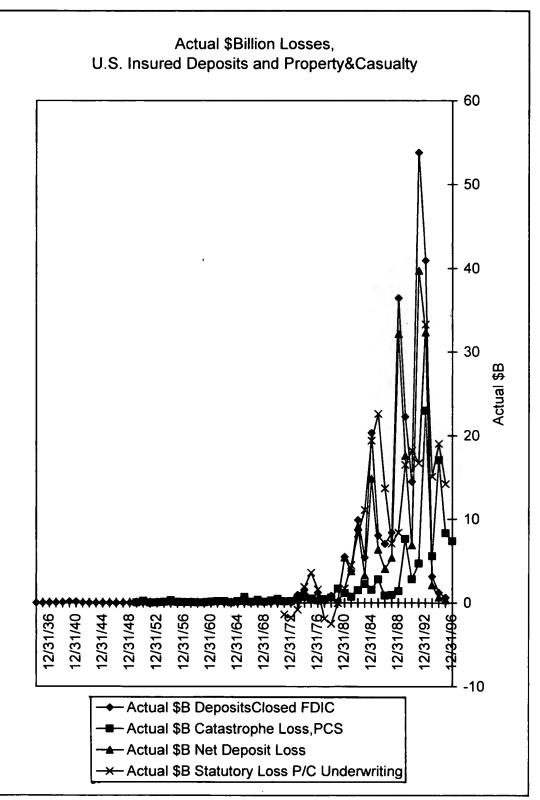


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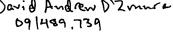
Figure 46

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<i>K</i> /										
Scalar			Nominal \$	Values				Adj \$ 1972	Values	
Value \$	Annual	Actual SR	Actual \$B	Actual SR	Actual \$B	Annual				Adj \$B
	Year End				Statutory L		Adis 1972	Adj1972 \$E	Adi\$1972	Stat Loss
CPI	Year End	•	Loss,PCS		P/C Unden		DepCI		DepLoss	Underwr
0.26699	12/31/96		7.35			12/31/96	0 0 0 0 0 0	1.962379		
0.275	12/31/95	0.632	8.335	0.332	14.2	12/31/95	0.1738	2.292125	0.0913	3.905
0.2875	12/31/94	1.236	17.045	0.636	19	12/31/94	0.35535	4.900438	0.18285	5.4625
0.2875	12/31/93	3.132	5.585	2.132	15.1	12/31/93	0.90045	1.605688	0.61295	4.34125
0.3	12/31/92	40.94		32.34	33.3	12/31/92		6.8922	9.702	9.99
0.3125	12/31/91	53.832	4.711	39.732	16.7	12/31/91		1.472188		5.21875
0.325	12/31/90	14.489	2.807	6.889	18.2		4.708925			5.915
0.3375 0.35	12/31/89	22.28 36.432	7.642	17.58	16.5	12/31/89		2.579175	5.93325	5.56875
0.3625	12/31/88 12/31/87	30.432 8.4	1.409 0.946	32.132 5.4	8.4 7.1	12/31/88 12/31/87	12.7512	0.49315 0.342925	11.2462 1.9575	2.94 2.57375
0.3023	12/31/86	7.057	0.871	4.057	13.7		2.646375		1.521375	5.1375
0.3875	12/31/85	8.059	2.816	6.359	22.6		3.122863		2.464113	8.7575
0.4	12/31/84	20.334	1.548	14.834	19.4	12/31/84	8.1336	0.6192	5.9336	7.76
0.425	12/31/83	5.442	2.255	3.242	11.1	12/31/83	2.31285		1.37785	4.7175
0.4375	12/31/82	9.904	1.523	9.104	8.3	12/31/82	4.333	0.666313	3.983	3.63125
0.4625	12/31/81	3.826	0.714	3.756	4.5	12/31/81	1.769525	0.330225	1.73715	2.08125
0.5125	12/31/80	5.516	1.178	5.416	1.7	12/31/80		0.603725	2.7757	0.87125
0.575	12/31/79	0.111	1.705		-0.02		0.063825			-0.0115
0.6375	12/31/78	0.854	0.645		-2.5		0.544425			-1.59375
0.6875	12/31/77	0.205	0.423		-1.9		0.140938			-1.30625
0.7375 0.775	12/31/76 12/31/75	1.235 0.34	0.271 0.513		1.6 3.6	12/31/76	0.910813 0.2635	0.199863 0.397575		1.18 2.79
0.775	12/31/73	1.576	0.513		1.9	12/31/75	1.3396	0.397373		1.615
0.9375	12/31/73	0.971	0.375		-0.8		0.910313	0.351563		-0.75
1	12/31/72	0.02	0.214		-1.8	12/31/72	0.02	0.214		-1.8
	12/31/71	0.141	0.173		-1.4	12/31/71	0.141	0.173		-1.4
	12/31/70	0.052	0.45			12/31/70	0.052	0.45		
	12/31/69	0.04	0.256			12/31/69		0.256		
	12/31/68	0.023	0.134			12/31/68	0.023	0.134		
	12/31/67	0.011	0.327			12/31/67	0.011	0.327		
	12/31/66	0.104	0.111			12/31/66	0.104	0.111		
	12/31/65 12/31/64	0.044 0.023	0.694 0.196			12/31/65 12/31/64	0.044 0.023	0.694 0.196		
	12/31/63	0.023	0.130			12/31/63	0.023	0.130		
	12/31/62	0.003	0.197			12/31/62	0.003	0.197		
	12/31/61	0.009	0.184			12/31/61	0.009	0.184		
	12/31/60	0.007	0.129			12/31/60	0.007	0.129		
	12/31/59	0.003	0.048			12/31/59	0.003	0.048		
	12/31/58		0.025			12/31/58		0.025		
	12/31/57	0.011	0.073			12/31/57	0.011	0.073		
	12/31/56	0.011	0.072			12/31/56	0.011	0.072		
	12/31/55 12/31/54	0.012 0.001	0.095 0.299			12/31/55 12/31/54	0.012 0.001	0.095 0.299		
	12/31/53	0.044	0.089			12/31/53	0.044	0.089		
	12/31/52	0.003	0.024			12/31/52	0.003	0.024		
1	12/31/51	0.003	0.017			12/31/51	0.003	0.017		1
	12/31/50	0.006	0.231			12/31/50	0.006	0.231		
1	12/31/49	0.006	0.022			12/31/49	0.006	0.022		
	12/31/48	0.01				12/31/48	0.01			
	12/31/47	0.007				12/31/47	0.007			
1	12/31/46	0.001				12/31/48	0.001			ļ
1	12/31/45	0.006				12/31/45	0.006			
	12/31/44	0.002 0.012				12/31/44	0.002			
1	12/31/43 12/31/42	0.012				12/31/43 12/31/42	0.012 0.017			l
	12/31/42	0.017				12/31/42	0.017			
	12/31/40	0.144				12/31/40	0.144			l
ì	12/31/39	0.161				12/31/39	0.161			l
	12/31/38	0.062				12/31/38	0.062			
1	12/31/37	0.033				12/31/37	0.033			i
	12/31/36	0.028				12/31/36	0.028			l
	12/31/35	0.013				12/31/35	0.013			
	12/31/34	0.002				12/31/34	0.002			

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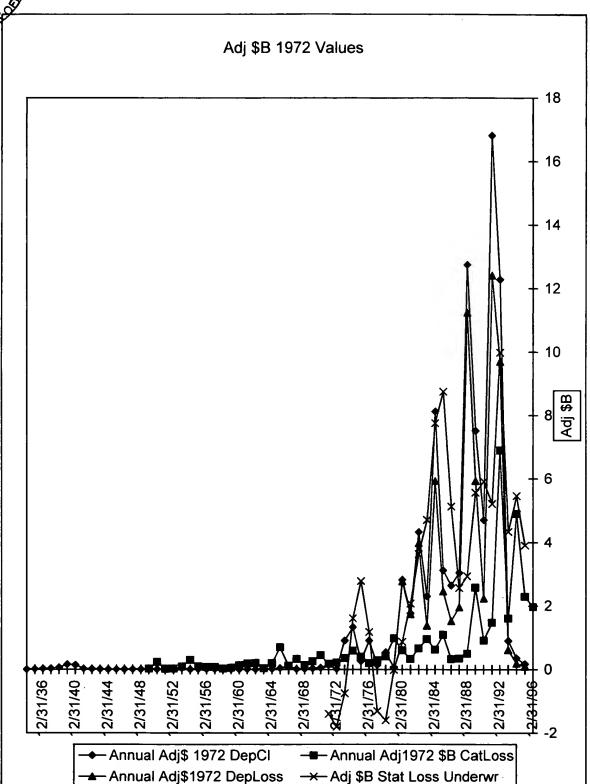
			72 Values				LN Adj\$ 19	72 delta Va	liues	
An	nnual	LN DepCI	Adj1972 \$E	3	LN Adj \$B	Annual	Adj\$ 1972			LN delta
Ye	ear End	Adj\$ 1972		LN Adj\$	Stat Loss	Year End		LN Delta	LN delta	Adj\$BStat
١.	10/04/00	LN DepCI	LN	DepLoss	Underwr	40/04/00	LN Delta	CatLoss	DepLoss	Loss Unwr
1	12/31/96 12/31/95	-1 7/085	0.829479	.2 3036	1.362258	12/31/96 12/31/95		-0.75985	0.60450	0.2012
	12/31/94		1.589324		1.697907	12/31/93				-0.2912 0.229744
	12/31/93		0.473552		1.468162	12/31/93				
		2.508135	1.93039		2.301585	12/31/92	-0.31458			
	12/31/91		0.386749		1.652258	12/31/91				
	12/31/90 12/31/89	1.54946	-0.09181		1.777491 1.717171	12/31/90				
	-	2.0175 2.545625	0.94747 -0.70694	1.780572 2.42003	1.07841	12/31/89 12/31/88				
•	12/31/87		-1.07024		0.945364	12/31/87			0.252054	
1	12/31/86	0.973191	-1.11894	0.419615	1.636567	12/31/86		-1.20622		
	12/31/85	1.13875	0.087278		2.16991	12/31/85				0.152677
	12/31/84		-0.47933		2.048982	12/31/84				
	12/31/82	0.838481 1.46626	-0.04252 -0.406		1.551279 1.289577	12/31/83 12/31/82				0.29069
		0.570711	-1.10798		0.732969	12/31/82	-0.46849		0.829789 -0.46866	
	12/31/80		-0.50464		-0.13783	12/31/80			2. 70000	5.5. 5445
	12/31/79	-2.75161	-0.01982		-0.2	12/31/79	-2.14359	0.868886		0
	12/31/78	-0.60803	-0.88871		-0.3	12/31/78				0
	12/31/77 12/31/76	-1.95944 -0.09342	-1.23508 -1.61013		-0.2 0.165514	12/31/77	-1.86602 1.240284			0 81003
	12/31/75	-1.3337	-0.92237		1.026042	12/31/75				-0.81093 0.63908
		0.292371	-0.52492		0.479335	12/31/74				0.00000
1	12/31/73	-0.09397	-1.04537		-0.2	12/31/73	3.818056			0
	12/31/72	-3.91202	-1.54178		-0.3	12/31/72				
	12/31/71 12/31/70	-1.959 - 2.95651	-1.75446 -0.79851		-0.2	12/31/71				
	12/31/69	-3.21888	-1.36258			12/31/70	0.262364 0.553385	0.56407 0.647338		
	12/31/68	-3.77226	-2.00992				0.737599	-0.89212		
1	12/31/67	-4.50986	-1.1178			12/31/67	-2.2465			
1	12/31/66	-2.26336	-2.19823			12/31/66				
	12/31/65 12/31/64	-3.12357 -3.77226	-0.36528			12/31/65				
	12/31/63	-3.77226	-1.62964 -3.38139			12/31/64 12/31/63	0 2.036882	1.751754 -1.75684		
	12/31/62	-5.80914	-1.62455			12/31/62				
1	12/31/61	-4.71053	-1.69282			12/31/61				
	12/31/60	-4.96185	-2.04794				0.847298	0.988611		
	12/31/59	-5.80914	-3.03655			12/31/59		0.652325		
	12/31/58 12/31/57	-4.50986	-3.68888 -2.6173			12/31/58 12/31/57	^	-1.07158		
,	12/31/56	-4.50986	-2.63109			12/31/57		0.013793 -0.27721		
	12/31/55	-4.42285	-2.35388			12/31/55		-1.14657		j
	12/31/54	-6.90776	-1.20731			12/31/54	-3.78419	1.211807		
	12/31/53	-3.12357	-2.41912			12/31/53		1.310583		
	12/31/52 12/31/51	-5.80914 -5.80914	-3.7297 -4.07454			12/31/52 12/31/51	0 -0.69315	0.34484		
	12/31/51	-5.116	-1.46534			12/31/51	-0.69315 0	-2.6092 2.351375		
	2/31/49	-5.116	-3.81671			12/31/49	-0.51083			
	2/31/48	-4.60517				12/31/48	0.356675			
	12/31/47	-4.96185				12/31/47	1.94591			
	12/31/46 12/31/45	-6.90776 -5.116				12/31/46	-1.79176			
	12/31/45	-6.21461				12/31/45	1.098612 -1.79176			
	12/31/43	-4.42285				12/31/43				
1	2/31/42	-4.07454				12/31/42	-0.56798			
	2/31/41	-3.50656				12/31/41	-1.56862			
	2/31/40	-1.93794				12/31/40	-0.11159			
	12/31/39 12/31/38	-1.82635 -2.78062				12/31/39	0.95427			
	2/31/36	-3.41125					0.630627 0.164303			
	2/31/36	-3.57555					0.767255			
	2/31/35	-4.34281					1.871802			
	2/31/34	-6.21461				12/31/34				

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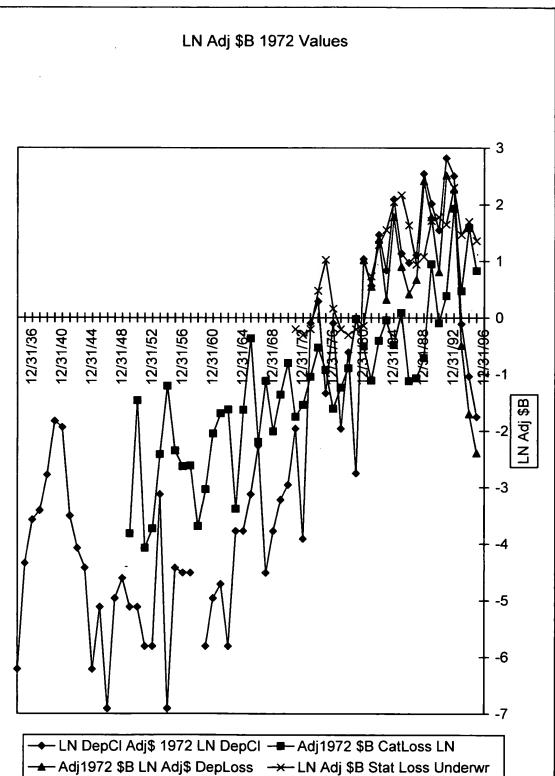
Figure 49

AUG 1 9 2002 GROUP 5500



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GROUP 3600





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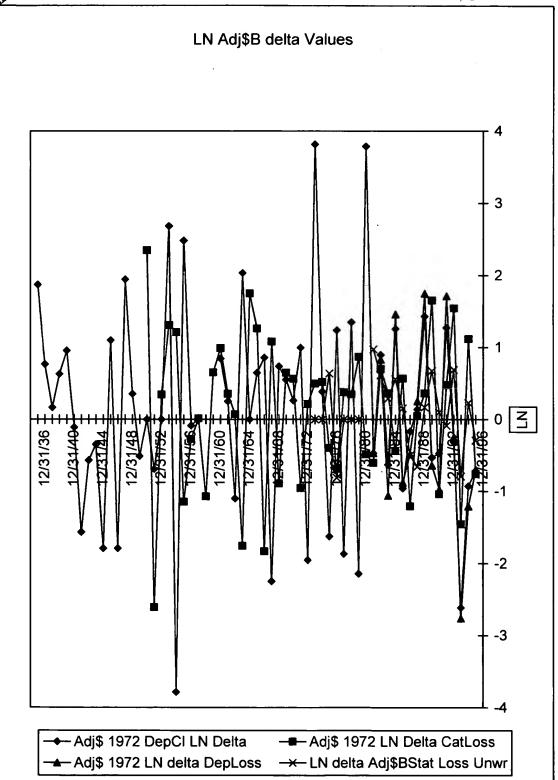
AUG 1 4 2002 W

Figure 51

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AUG 1 9 2002

GROUP 3600



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GROUP 3600

Figure 52

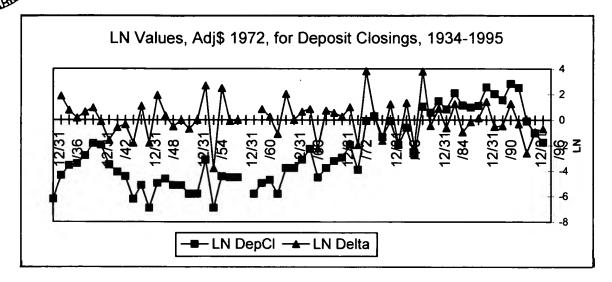


Figure 53

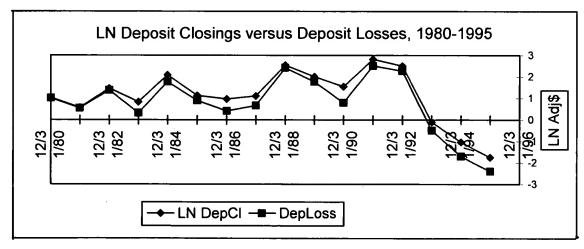
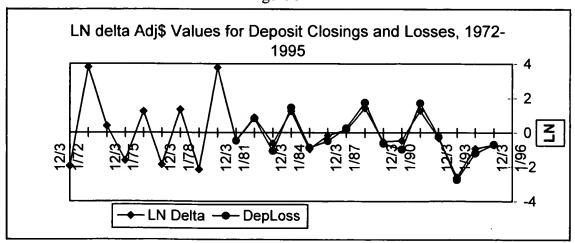


Figure 54



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Figure 55

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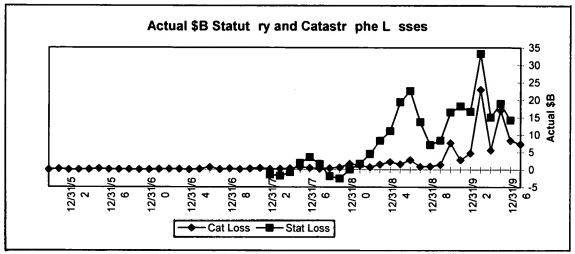


Figure 56

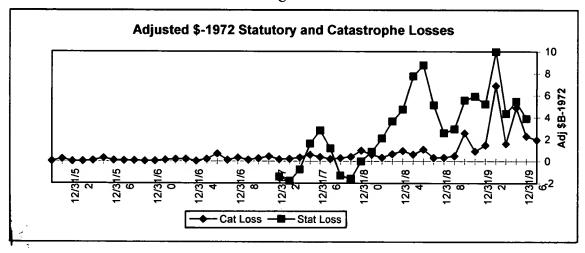
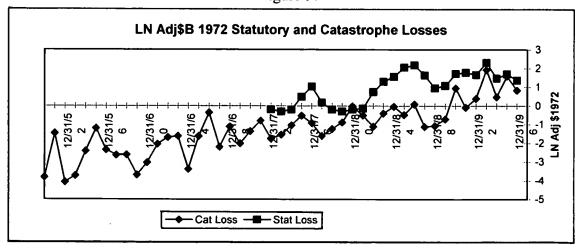


Figure 57



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Figure 58

OIPE

AUG 1 4 2002

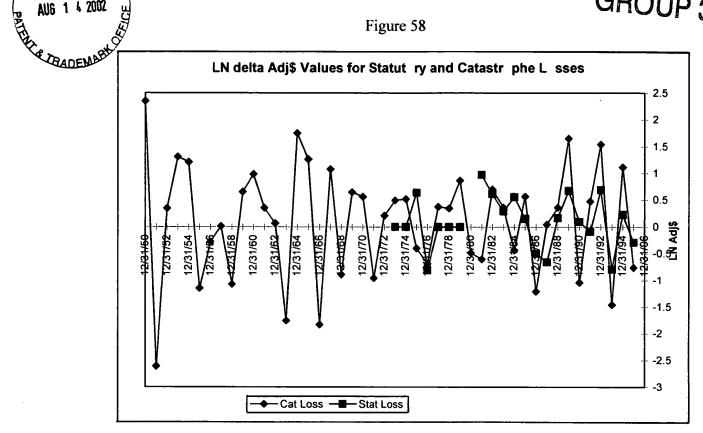
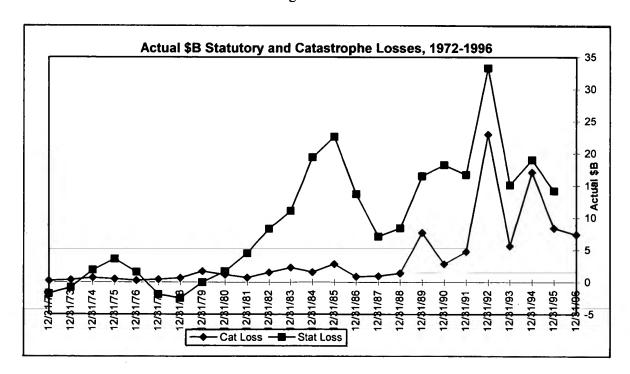


Figure 59



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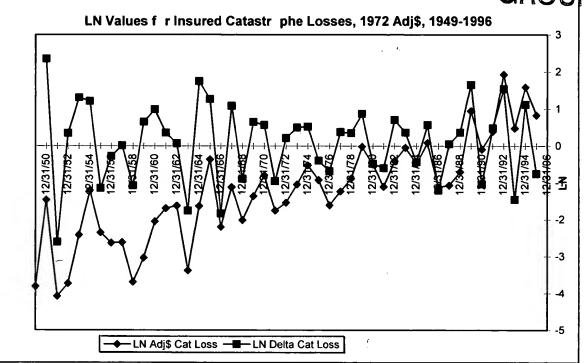
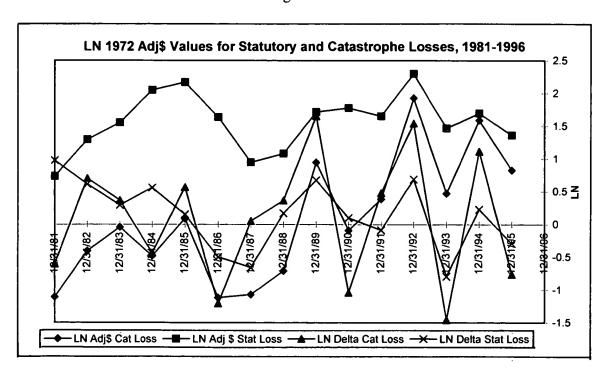


Figure 61





	<u>-</u>	Deposits C	losed 197	3-1995						
Act\$BL	Act\$BDepCl Adj\$BDepCl LN Adj\$BDepCl LN deltaAdj\$BDepCl A									
Mean	10.73057	Mean	3.820752	Mean	0.488799	Mean	0.094008			
Standard E	3.063359	Standard E	0.965447	Standard E	0.31951	Standard E	0.342661			
Median	5.442	Median	2.31285	Median	0.838481	Median	-0.31458			
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A			
Standard E	14.69135	Standard E	4.630121	Standard E	1.532316	Standard C	1.643344			
Sample Va	215.8359	Sample Va	21.43802	Sample Va	2.347993	Sample Va	2.70058			
Kurtosis	2.753699	Kurtosis	1.983528	Kurtosis	-0.54742	Kurtosis	0.609058			
Skewness	1.838003	Skewness	1.639766	Skewness	-0.43029	Skewness	0.721656			
Range	53.721	Range	16.75868	Range	5.574328	Range	6.431051			
Minimum	0.111	Minimum	0.063825	Minimum	-2.75161	Minimum	-2.613			
Maximum	53.832	Maximum	16.8225	Maximum	2.822717	Maximum	3.818056			
Sum	246.803	Sum	87.8773	Sum	11.24238	Sum	2.162173			
Count	23	Count	23	Count	23	Count	23			
Confidence	6.353025	Confidenc€	2.002217	Confidence	0.662624	Confidence	0.710636			

Figure 63

	Catastrophe Loss, 1973-1995								
Act\$BC	atLoss A	dj\$BCatLoss	s LN	IAdj\$BCatLo	ss LNde	ltaAdj\$BCat	Loss		
Mean	3.782043	Mean	1.274296	Mean	-0.24046	Mean	0.103098		
Standard E	1.181391	Standard E	0.336855	Standard E	0.19276	Standard E	0.175688		
Median	1.523	Median	0.6192	Median	-0.47933	Median	0.363302		
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A		
Standard C	5.665751	Standard E	1.615499	Standard C	0.924446	Standard C	0.842568		
Sample Va	32.10073	Sample Va	2.609836	Sample Va	0.854601	Sample Va	0.709921		
Kurtosis	6.303979	Kurtosis	6.897762	Kurtosis	0.155053	Kurtosis	-0.63766		
Skewness	2.518331	Skewness	2.595322	Skewness	0.831655	Skewness	-0.06046		
Range	22.703	Range	6.692338	Range	3.540516	Range	3.11125		
Minimum	0.271	Minimum	0.199863	Minimum	-1.61013	Minimum	-1.45684		
Maximum	22.974	Maximum	6.8922	Maximum	1.93039	Maximum	1.654411		
Sum	86.987	Sum	29.3088	Sum	-5.53055	Sum	2.371259		
Count	23	Count	23	Count	23	Count	23		
Confidenc€	2.450057	Confidenc€	0.698595	Confidence	0.399761	Confidence	0.364354		



Figure 64

LN Deposit	Closings, 1	979-95 LN Cat Los	ses, 1979-9
Colui	nn1	Colui	nn1
Mean	1.881462	Mean	1.037784
Standard E	0.384475	Standard E	0.252061
Median	2.086789	Median	0.81315
Mode	#N/A	Mode	#N/A
Standard C	1.585229	Standard D	1.039273
Sample Va	2.512951	Sample Va	1.080089
Kurtosis	1.519364	Kurtosis	-0.49638
Skewness	-1.09525	Skewness	0.669703
Range	6.184093	Range	3.471235
Minimum	-2.19823	Minimum	-0.33687
Maximum	3.985868	Maximum	3.134363
Sum	31.98486	Sum	17.64232
Count	17	Count	17
Confidence	0.815049	Confidence	0.534345

Figure 65

LN delta Ad 1934-1995	ij1972 \$ D	epClose and 1949-1996	d CatLoss
DepClosed		CatLoss	
Mean	0.097696	Mean	0.09555
Standard E	0.191481	Standard E	0.151993
Median	0	Median	0.346371
Mode	0	Mode	#N/A
Standard C	1.470796	Standard E	1.042011
Sample Va	2.163242	Sample Va	1.085787
Kurtosis	0.609433	Kurtosis	-0.05102
Skewness	0.095751	Skewness	-0.32992
Range	7.602245	Range	4.96058
Minimum	-3.78419	Minimum	-2.6092
Maximum	3.818056	Maximum	2.351375
Sum	5.764041	Sum	4.49087
Count	59	Count	47
Confidence	0.383291	Confidence	0.305946

Figure 66

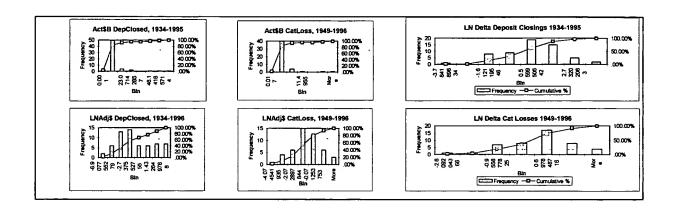


Figure 67

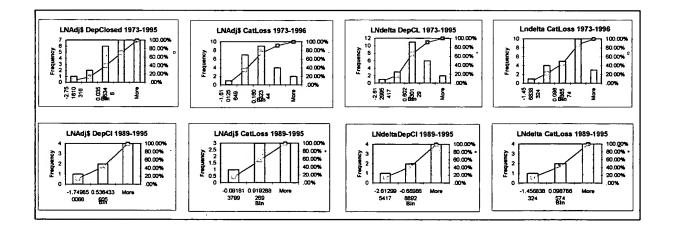
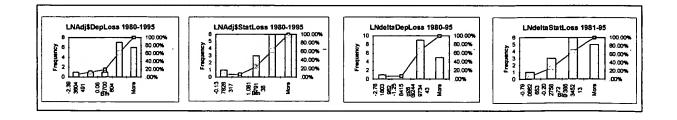


Figure 68



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Figure 69

Annual			%1934Ins	%1934Ins	%1934Ins	%1934Ins
Year End	"Total Dep	%1934Ins		Adj\$1972	LN Adj\$	LNdeltaAd
Year End	%Insured		DepClose	DepClose	DepClose	DepClose
12/31/96						
12/31/95	75.8	1.68071	0.376032	0.100397	-2.29862	-0.6846
12/31/94	77	1.707317	0.723943		-1.61403	-0.98076
12/31/93	76.5	1.696231	1.846447	0.530854	-0.63327	-2.55874
12/31/92	77.4	1.716186	23.85522	6.858376	1.925471	-0.31245
12/31/91	77.7	1.722838	31.24612		2.237922	1.248218
12/31/90	75.9	1.682927	8.609406		0.989704	-0.4682
12/31/89	76	1.685144	13.22142	4.296962	1.457908	-0.54141
12/31/88	75.1	1.665188	21.8786	7.384029	1.999319	1.433508
12/31/87	75.3	1.669623	5.031076	1.760876	0.565812	0.140447
12/31/86	75.4	1.67184	4.221097	1.530148	0.425364	-0.15743
12/31/85	76.1	1.687361	4.776096	1.791036	0.582794	-0.94784
12/31/84	76.9	1.7051	11.9254	4.621093	1.530631	1.26138
12/31/83	75	1.662971	3.272456	1.308982	0.26925	-0.68098
12/31/82	73.4	1.627494	6.085428	2.586307	0.950231	0.958256
12/31/81	76.1	1.687361	2.267445	0.992007	-0.00802	-0.4109
12/31/80	76.9	1.7051	3.235001	1.496188	0.402921	3.77820
12/31/79	75	1.662971	0.066748	0.034208	-3.37529	-2.1770
12/31/78	73.4	1.627494	0.524733	0.301721	-1.19825	1.27916
12/31/77	70.2	1.556541	0.131702	0.08396	-2.47741	-1.85158
12/31/76	71.6	1.587583	0.777912	0.534815	-0.62584	1.1367
12/31/75	65.9	1.461197	0.232686	0.171606	-1.76256	-1.5757
12/31/74	66.4	1.472284	1.070446	0.829595	-0.18682	0.384387
12/31/73	65.9	1.461197	0.664524	0.564845	-0.5712	3.79668
12/31/72	66.7	1.478936	0.013523	0.012678	-4.36788	-2.04338
12/31/71	65	1.441242	0.097832	0.097832	-2.3245	0.95829
12/31/70	62.5	1.385809	0.037523	0.037523	-3.2828	0.23314
12/31/69	60.7	1.345898	0.02972	0.02972	-3.51594	0.545114
12/31/68	60.2	1.334812	0.017231	0.017231	-4.06105	0.70381
12/31/67	58.2	1.290466	0.008524	0.008524	-4.76486	-2.2430
12/31/66	58.4	1.2949	0.080315	0.080315	-2.5218	0.81106
12/31/65	55.6	1.232816	0.035691	0.035691	-3.33287	0.63784
12/31/64	55	1.219512	0.01886	0.01886	-3.97071	0.02867
12/31/63	56.6	1.254989	0.018327	0.018327	-3.99939	2.04742
12/31/62	57.2	1.268293	0.002365	0.002365	-6.04681	-1.1021
12/31/61	57	1.263858	0.007121	0.007121	-4.9447	0.26004
12/31/60	57.5	1.274945	0.00549	0.00549	-5.20475	0.84555
12/31/59	57.4	1.272727	0.002357	0.002357	-6.05031	
12/31/58	56.8	1.259424	0	0		
12/31/57	56.3	1.248337	0.008812	0.008812	-4.73167	-0.01973
12/31/56	55.2	1.223947	0.008987	0.008987	-4.71194	-0.0942
12/31/55	54.8	1.215078	0.009876	0.009876	-4.61766	2.4812
12/31/54	54.6	1.210643	0.000826	0.000826	-7.09891	-3.78419
12/31/53	54.6	1.210643	0.036344	0.036344	-3.31472	2.676378
12/31/52	54.1	1.199557	0.002501	0.002501	-5.99109	0.001847
12/31/51	54.2	1.201774	0.002496	0.002496	-5.99294	-0.68946
12/31/50	54.4	1.206208	0.004974	0.004974	-5.30348	-0.10863
12/31/49	48.8	1.08204	0.005545	0.005545	-5.19484	-0.5047
12/31/48	49.1	1.088692	0.009185	0.009185	-4.69015	0.364789
12/31/47	49.5	1.097561	0.006378	0.006378	-5.05494	1.94994
12/31/46	49.7	1.101996	0.000907	0.000907	-7.00488	-1.9506
12/31/45	42.4	0.940133	0.006382	0.006382	-5.05426	1.0867
12/31/44	41.9	0.929047	0.002153	0.002153	-6.14101	-1.75659
12/31/43	43.4	0.962306	0.01247	0.01247	-4.38443	-0.5214
12/31/42	36.5	0.809313	0.021005	0.021005	-3.86297	-0.4839
12/31/41	39.7				-3 37903	-1 54120

39.7 0.880266 0.034081 0.034081 -3.37903 -1.54129

45.5 1.008869 0.061455 0.061455 -2.78945 0.658798

46.8 1.037694 0.031801 0.031801 -3.44825 0.111659

44.4 0.984479 0.028441 0.028441 -3.55991 0.773989

-0.0614

-6.22352 0.001432

-6.21461

40.8 0.904656 0.159176 0.159176 -1.83774

42.9 0.95122 0.169256 0.169256 -1.77634

44.7 0.991131 0.013116 0.001982

12/31/41

12/31/40

12/31/39

12/31/38 12/31/37

12/31/36

12/31/35

12/31/34



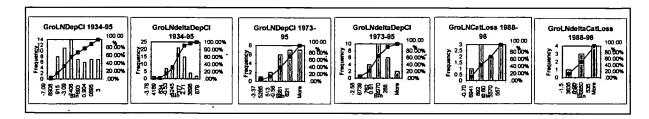
% 1934 Insured Total Deposit Scalar Adjusted, 1934-1995

AdjAct\$B	A	dj1972Adj\$E	3	AdjLNAdj\$B		AdjLNdelta	
Mean	2.450631	Mean	0.850641	Mean	-2.70751	Mean	0.057826
Standard E	0.786694	Standard E	0.246549	Standard E	0.332375	Standard E	0.192171
Median	0:036017	Median	0.034949	Median	-3.33287	Median	0.015261
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard C	6.093708	Standard E	1.909761	Standard C	2.553018	Standard C	1.463533
Sample Va	37.13328	Sample Va	3.647185	Sample Va	6.517903	Sample Va	2.141927
Kurtosis	11.32783	Kurtosis	9.235564	Kurtosis	-0.97877	Kurtosis	0.700621
Skewness	3.319198	Skewness	3.020923	Skewness	0.32756	Skewness	0.130788
Range	31.24612	Range	9.373835	Range	9.336829	Range	7.58087
Minimum	0	Minimum	0	Minimum	-7.09891	Minimum	-3.78419
Maximum	31.24612	Maximum	9.373835	Maximum	2.237922	Maximum	3.79668
Sum	147.0379	Sum	51.03845	Sum	-159.743	Sum	3.353905
Count	60	Count	60	Count	59	Count	58
Confidenc€	1.574173	Confidenc€	0.493344	Confidenc€	0.66532	Confidence	0.384816

Figure 71

Annual	Actual \$B	Adj1972 \$E	Growth	%Growth A	Ln%GroAd	delLN%Gro
Year End	CatLoss	CatLoss	Scalar	Cat Loss	CatLoss	CatLoss
Year End						
12/31/96	7.35	1.962379	1.91	1.027423	0.027054	-0.21464
12/31/95	8.335	2.292125	1.8	1.273403	0.241693	-0.82884
12/31/94	17.045	4.900438	1.68	2.916927	1.070531	1.048054
12/31/93	5.585	1.605688	1.57	1.022731	0.022476	-1.53635
12/31/92	22.974	6.8922	1.45	4.753241	1.558827	1.464747
12/31/91	4.711	1.472188	1.34	1.098647	0.09408	0.392908
12/31/90	2.807	0.912275	1.23	0.741687	-0.29883	-1.14194
12/31/89	7.642	2.579175	1.11	2.323581	0.84311	1.550051
12/31/88	1.409	0.49315	1	0.49315	-0.70694	

Figure 72





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Figure 73

Assust	Actual \$B		Actual \$B	
Annual	Deposits	Total	Assets	Total
Year End	Closed	Deposits	Closed	Assets
12/31/94	1.236	2874.4	1.392	4010.8
12/31/93	3.132	2754.3	3.539	3706.2
12/31/92	40.94	2698.7	44.232	3505.7
12/31/91	53.832		63.338	3430.6
12/31/90	14.489		15.365	3389.5
12/31/89	22.28		29.431	3299.4
12/31/88	36.432		52.62	3130.8
12/31/87	8.4		9.216	2999.9
12/31/86 12/31/85	7.057		6.813	2940.7
12/31/83	8.059 20.334		8.735 36.909	2730.7 2508.9
12/31/83	5.442		7.026	2342.1
12/31/82	9.904		11.632	2193.3
12/31/81	3.826		4.99	2028.9
12/31/80	5.516		8.189	1855.7
12/31/79	0.111		0.133	1691.8
12/31/78	0.854		0.994	1507.9
12/31/77	0.205	929.2	0.233	1339.4
12/31/76	1.235		1.039	1182.4
12/31/75	0.34		0.42	1086.7
12/31/74	1.576		3.823	1037.2
12/31/73	0.971		1.31	820.4
12/31/72	0.02		1.322	730.9
12/31/71	0.141		0.197	633.6
12/31/70 12/31/69	0.052 0.04		0.062 0.044	570.2 524.6
12/31/68	0.04		0.044	500.2
12/31/67	0.011		0.012	450.6
12/31/66	0.104		0.121	402.9
12/31/65	0.044		0.059	375.4
12/31/64	0.023	306.2	0.026	345.1
12/31/63	0.023	274.6	0.026	311.8
12/31/62	0.003	261.4	0	295.9
12/31/61	0.009		0.01	277.3
12/31/60	0.007		0.008	256.3
12/31/59	0.003		0.003	243.4
12/31/58	0.044	215.2	0.044	237.5
12/31/57 12/31/56	0.011		0.011	221.5
12/31/55	0.011 0.012	196.5 190.9	0.013 0.012	216.1 209.1
12/31/54	0.012		0.012	209.1
12/31/53	0.044		0.001	191.1
12/31/52	0.003		0.002	186.7
12/31/51	0.003		0.003	177.5
12/31/50	0.006	153.5	0.004	166.7
12/31/49	0.006		0.005	155.3
12/31/48	0.01		0.01	152.1
12/31/47	0.007		0.007	152.7
12/31/46	0.001		0.001	147.3
12/31/45	0.006 0.002		0.006	157.5
12/31/44 12/31/43	0.002		0.002	134.6
12/31/43	0.012		0.014 0	112.2 95.5
12/31/42	0.017		0	76.8
12/31/40	0.144		ő	70.7
12/31/39	0.161		Ö	63.1
12/31/38	0.062		0.014	56.8
12/31/37	0.033		0.019	54.2
12/31/36	0.028		0.012	56.2
12/31/35	0.013		0.012	50.9
12/31/34	0.002	39	0.003	46.4
			<u> </u>	

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Figure 74

	·	*
	Closed Deposits/	Closed Assets/
Annual	Total Deposits	Total Assets
Year End	#/# e^(#/#)	#/# e^(#/#)
12/31/94	0.00043 1.00043	0.00035 1.000347
12/31/93	0.00114 1.001138	0.00095 1.000955
12/31/92	0.01517 1.015286	0.01262 1.012697
12/31/91	0.02018 1.020385	0.01846 1.018634
12/31/90	0.00547 1.005482	0.00453 1.004543
12/31/89	0.00874 1.008781	0.00892 1.00896
12/31/88	0.01498 1.015095	0.01681 1.016949
12/31/87	0.00360 1.003603	0.00307 1.003077
12/31/86	0.00309 1.003095	0.00232 1.002319
12/31/85	0.00380 1.003812	0.00320 1.003204
12/31/84	0.01036 1.010413	0.01471 1.01482
12/31/83	0.00295 1.002958	0.00300 1.003004
12/31/82	0.00581 1.005823	0.00530 1.005318
12/31/81	0.00241 1.002411	0.00246 1.002462
12/31/80	0.00372 1.003731	0.00441 1.004423
12/31/79	0.00008 1.000081	0.00008 1.000079
12/31/78	0.00069 1.000693	0.00066 1.000659
12/31/77	0.00022 1.000221	0.00017 1.000174
12/31/76 12/31/75	0.00149 1.001487 0.00044 1.000436	0.00088 1.000879 0.00039 1.000387
12/31/74	0.00044 1.000436 0.00211 1.002114	0.00369 1.003693
12/31/73	0.00142 1.001425	0.00160 1.001598
12/31/72	0.00003 1.000032	0.00181 1.00181
12/31/71	0.00026 1.000262	0.00031 1.000311
12/31/70	0.00011 1.000108	0.00011 1.000109
12/31/69	0.00009 1.000092	0.00008 1.000084
12/31/68	0.00005 1.000053	0.00005 1.00005
12/31/67	0.00003 1.000028	0.00003 1.000027
12/31/66	0.00029 1.000295	0.00030 1.0003
12/31/65	0.00013 1.000133	0.00016 1.000157
12/31/64	0.00008 1.000075	0.00008 1.000075
12/31/63	0.00008 1.000084	0.00008 1.000083
12/31/62	0.00001 1.000011	0.00000 1
12/31/61	0.00004 1.000036	0.00004 1.000036
12/31/60	0.00003 1.000031	0.00003 1.000031
12/31/59	0.00001 1.000014	0.00001 1.000012
12/31/58	0.00000 1	0.00000 1
12/31/57	0.00005 1.000055	0.00005 1.00005
12/31/56	0.00006 1.000056	0.00006 1.00006
12/31/55	0.00006 1.000063	0.00006 1.000057
12/31/54 12/31/53	0.00001 1.000005 0.00025 1.000251	0.00000 1.000005 0.00000 1
12/31/52	0.00023 1.000231	0.00001 1.000011
12/31/51	0.00002 1.000018	0.00001 1.000011
12/31/50	0.00004 1.000039	0.00002 1.000024
12/31/49	0.00004 1.000042	0.00003 1.000032
12/31/48	0.00007 1.000071	0.00007 1.000066
12/31/47	0.00005 1.000049	0.00005 1.000046
12/31/46	0.00001 1.000007	0.00001 1.000007
12/31/45	0.00004 1.000041	0.00004 1.000038
12/31/44	0.00002 1.000016	0.00001 1.000015
12/31/43	0.00012 1.000115	0.00012 1.000125
12/31/42	0.00019 1.000194	0.00000 1
12/31/41	0.00043 1.000432	0.00000 1
12/31/40	0.00227 1.00227	0.00000 1
12/31/39	0.00287 1.002874	0.00000 1
12/31/38	0.00124 1.001246	0.00025 1.000247
12/31/37	0.00070 1.000699	0.00035 1.000351
12/31/36	0.00057 1.000568	0.00021 1.000214
12/31/35	0.00029 1.000295	0.00024 1.000236
12/31/34	0.00005 1.000051	0.00006 1.000065

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Figure 75

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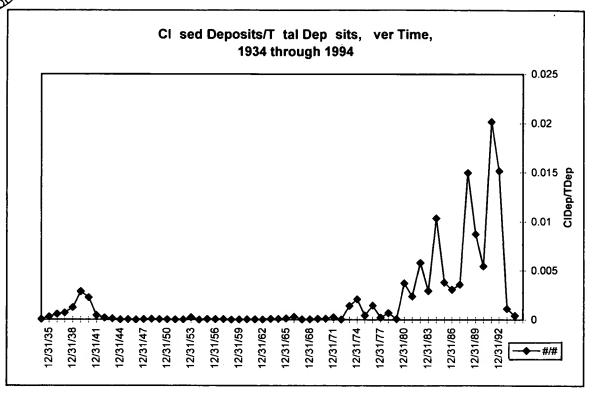
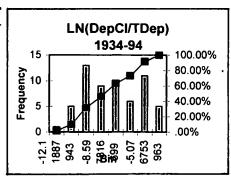
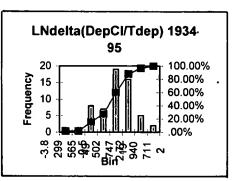


Figure 76

CIDep/TDep	e^(#/#)

Mean1.001961Standard E0.000519Median1.000221Mode1.000295Standard E0.004051Sample Va1.64E-05Kurtosis9.467078Skewness3.025294





CIAs/TAs e^(#/#)

1934 thru 1994

Mean 1.001868

Standard E 0.000526

Median 1.000109

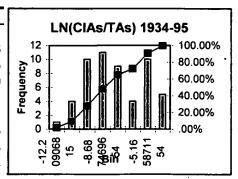
Mode 1

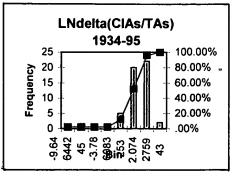
Standard E 0.004111

Sample Va 1.69E-05

Kurtosis 8.186568

Skewness 2.924594









	FDIC	Interest-	FDIC	Interest-	Interest-
Annual	Total	Bearing (IB)	Total	• • •	Bearing(IB)
Year End	Deposits	Deposits	Assets	Assets	Liabilities
12/31/94	2874.4	2302	4010.8	3566.6	3023.8
12/31/93	2754.3		3706.2		2717.5
12/31/92	2698.7		3505.7		2598.3
12/31/91	2667.6	2207	3430.6		2611.9
12/31/90	2650.1	2161	3389.5	2956.3	2570.7
12/31/89	2548.5	2065	3299.4	2887.9	2503.9
12/31/88	2431.7	1952	3130.8	2734.5	2350.5
12/31/87	2335.4	1857	2999.9	2627	2237.2
12/31/86	2283.5		2940.7	2548.6	2127
12/31/85	2118.1		2730.7	2362.7	1981.9
12/31/84	1962.9	1531	2508.9	2157	1803
12/31/83	1842.5		2342.1	2005.7	1696.4
12/31/82	1705.7		2193.3		1580.4
12/31/81	1588.7		2028.9		1422.9
12/31/80	1481.1		1855.7		1233.9
12/31/79	1362.8		1691.8		1092.6
12/31/78	1233.4		1507.9		966.8
12/31/77	929.2		1339.4		841.2
12/31/76	830.9		1182.4	1013.9	743.9
12/31/75	780.7		1086.7		660.2
12/31/74	746.4		1037.2		621.3
12/31/73	681.7		820.4		434.9
12/31/72 12/31/71	616.9 539.2		730.9		363.4
12/31/71	539.2 482.5		633.6 570.2		306.2 257.3
12/31/69	436.9		570.2 524.6		257.3
12/31/68	434.6		500.2		217.5
12/31/67	395.8		450.6		192.9
12/31/66	352.8		402.9		167.6
12/31/65	331.5		375.4		153.7
12/31/64	306.2		345.1		130.9
12/31/63	274.6		311.8	254.1	115.4
12/31/62	261.4		295.9		101.8
12/31/61	247.9		277.3		83.3
12/31/60	228.9		256.3		73.5
12/31/59	219	67.5	243.4	189.4	68.1
12/31/58	215.2		237.5	184.4	65.8
12/31/57	200.5		221.5	169.2	57.8
12/31/56	196.5		216.1	164.2	52.2
12/31/55	190.9		209.1	159.7	50.1
12/31/54	183.3		200.6	154.6	48.6
12/31/53	175.1	44.8	191.1	144.2	44.9
12/31/52	171.4		186.7	140.2	41.6
12/31/51	163.2		177.5	131.1	38.3
12/31/50	153.5		166.7	125.2	36.6
12/31/49	143.2		155.3	118.4	36
12/31/48	140.7		152.1	112.4	35.6
12/31/47	141.9		152.7	114.4	35
12/31/46	137		147.3	112.3	33.7
12/31/45	147.8		157.5	121.9	30.2
12/31/44 12/31/43	125.7 104.1	23.9 19.2	134.6 112.2	103.5	24.1
12/31/43	87.8	16.3	95.5	83.6 66.4	19.2
12/31/42	69.4		76.8		16.3
12/31/41	63.5		76.8 70.7	49.5 42.7	15.9 15.8
12/31/40	56.1	15.7 15.2	70.7 63.1	42.7	15.8
12/31/39	49.8		56.8	39.5 37.7	15.3 14.9
12/31/37	49.6 47.2		54.2	37.7 37.4	14.9
12/31/36	49.3		56.2	37.4	14.9
12/31/35	44.1	13.4	50.9	35.1	13.4
12/31/34	39		46.4	33.1	12.8



Figure 78

Annual	TD/T 4			sus Assets		
Year End	TD/TA	IBD/IBA	IBD.IBL	TD/IBA	TD/IBL	IBA/IBL
12/31/94	0.717	0.645	0.761	0.806	0.951	1.180
12/31/93	0.743				1.014	
12/31/92	0.770				1.039	
12/31/91	0.778				1.021	
12/31/90	0.782		0.841	0.896	1.031	
12/31/89	0.772				1.018	
12/31/88	0.777				1.035	
12/31/87	0.778				1.044	
12/31/86	0.777				1.074	
12/31/85	0.776			0.896	1.069	
12/31/84	0.782			0.910	1.089	
12/31/83	0.787	0.723		0.919	1.086	
12/31/82	0.778			0.907	1.079	
12/31/81	0.783		0.847		1.117	
12/31/80	0.798		0.850	0.954	1.200	
12/31/79	0.806	0.663	0.853	0.969	1.247	
12/31/78	0.818	0.663	0.863	0.981	1.276	
12/31/77	0.694	0.486	0.654	0.821	1.105	
12/31/76	0.703		0.668	0.820	1.117	
12/31/75	0.718		0.695	0.848	1.183	
12/31/74	0.720		0.695	0.859	1.201	
12/31/73	0.831	0.554	0.858	1.012	1.567	
12/31/72	0.844	0.538	0.881	1.037	1.698	
12/31/71	0.851	0.539	0.905	1.050	1.761	
12/31/70	0.846	0.517	0.917	1.056	1.875	
12/31/69	0.833	0.473	0.906	1.049	2.009	
12/31/68	0.869	0.513	0.951	1.082	2.006	
12/31/67	0.878	0.513	0.959	1.097	2.052	
12/31/66	0.876	0.498	0.961	1.092	2.105	
12/31/65	0.883	0.484	0.963	1.085	2.157	
12/31/64	0.887	0.459	0.970	1.106	2.339	
12/31/63	0.881	0.440	0.968	1.081	2.380	
12/31/62	0.883	0.417	0.965	1.110	2.568	
12/31/61	0.894	0.385	0.994	1.154	2.976	
12/31/60	0.893	0.369	0.997	1.152	3.114	
12/31/59	0.900	0.356	0.991	1.156	3.216	
12/31/58	0.906	0.356	0.998	1.167	3.271	2.802
12/31/57	0.905	0.340	0.997	1.185	3.469	
12/31/56	0.909	0.317	0.998	1.197	3.764	3.146
12/31/55	0.913	0.312	0.996	1.195	3.810	
12/31/54	0.914	0.312	0.998	1.186	3.772	
12/31/53	0.916	0.311	0.998	1.214	3.900	
12/31/52	0.918	0.295	0.995	1.223	4.120	
12/31/51	0.919	0.293	1.000	1.245	4.120	3.423
12/31/50	0.921	0.292	0.997	1.226	4.201	3.423
12/31/49		0.292			3.978	
12/31/48	0.922 0.925	0.304	1.000 0.997	1.209	3.952	3.289 3.157
12/31/47	0.929	0.305	0.997	1.232	4.054	3.157
12/31/46	0.930	0.303	0.997	1.220	4.065	
12/31/45	0.938	0.299	0.990	1.212	4.894	4.036
12/31/44	0.934	0.243	0.992	1.212	5.216	4.036
12/31/43	0.928	0.231	1.000	1.214	5.422	4.295
12/31/43	0.928	0.230	1.000	1.322	5.387	4.074
12/31/41	0.919	0.245	1.000	1.402	4.365	
12/31/41		0.321				3.113
	0.898		0.994	1.487	4.019	2.703
12/31/39	0.889	0.385	0.993	1.420	3.667	2.582
12/31/38	0.877	0.393	0.993	1.321	3.342	2.530
12/31/37	0.871	0.396	0.993	1.262	3.168	2.510
12/31/36	0.877	0.366	0.993	1.281	3.472	2.711
12/31/35	0.866	0.382	1.000	1.256	3.291	2.619
12/31/34	0.841	0.384	0.992	1.178	3.047	2.586

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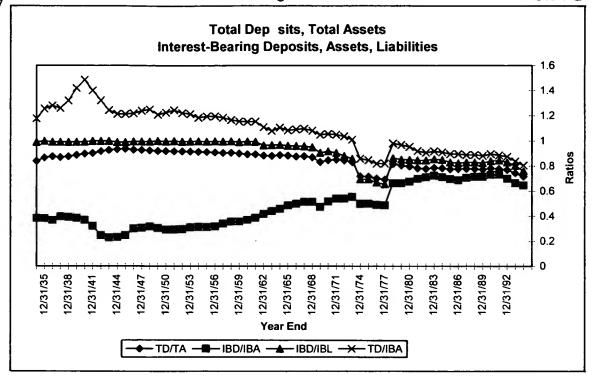
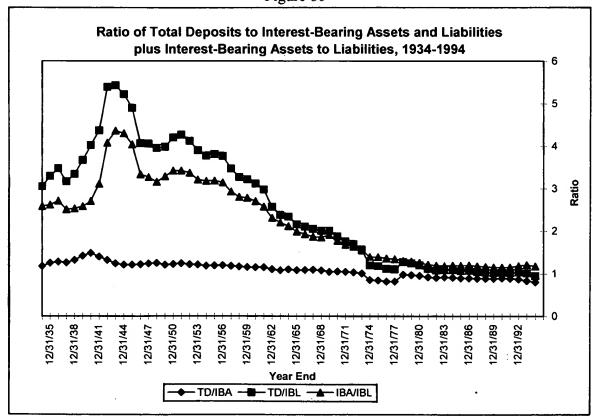
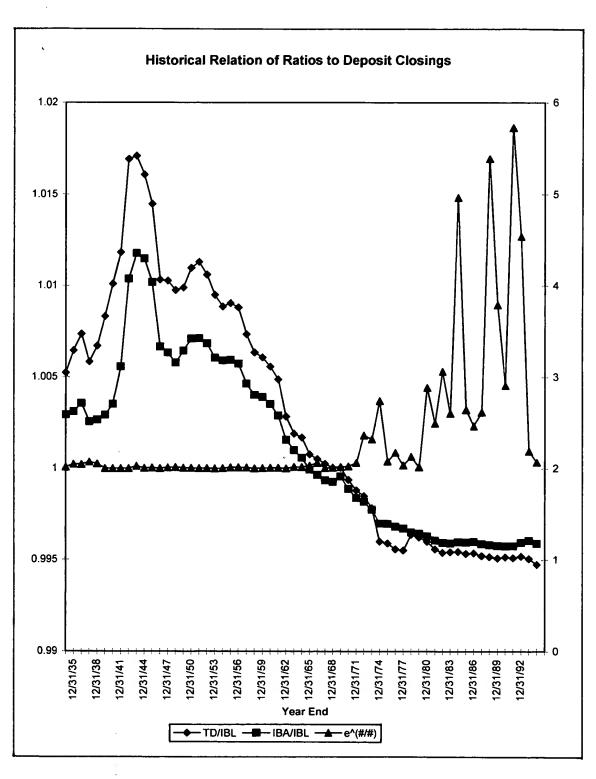


Figure 80

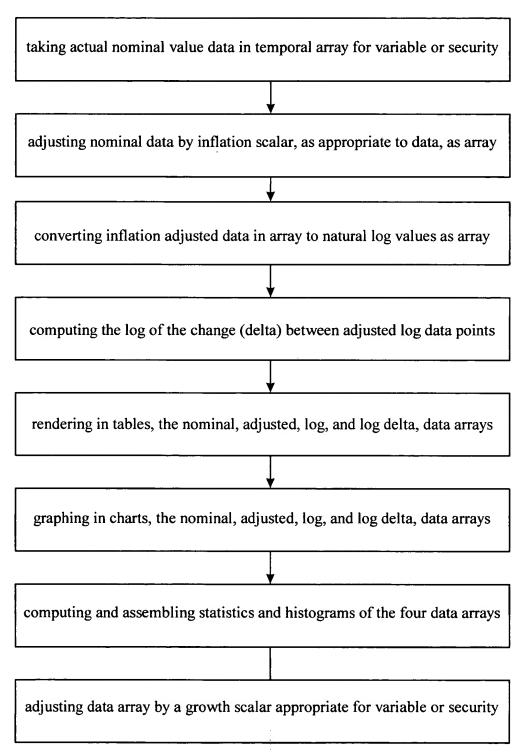












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Figure 83



10 Sequences of Independent Uniform Random Variables on (0,1) Each Sequence with Different Seed Clock Rate

0.382	0.655507	0.894681	0.670064	0.267006	0.436171	0.672079	0.682669	0.817438	0.922178
0.100681	0.01825	0.803186	0.609638	0.456893	0.46028	0.326518	0.770135	0.326426	0.697958
0.596484	0.54442	0.608997	0.666982	0.136814	0.106754	0.822169	0.469069	0.421735	0.396039
0.899106	0.208106	0.477767	0.745323	0.523515	0.135258	0.938231	0.353069	0.620075	0.492477
0.88461	0.734306	0.8717	0.62392	0.058046	0.272378	0.341227	0.664327	0.019074	0.329875
0.958464	0.372997	0.612537	0.552904	0.94821	0.313913	0.698569	0.623615	0.999817	0.841304
0.014496	0.998077	0.352062	0.854305	0.563677	0.968749	0.967925	0.218543	0.545366	0.524918
0.407422	0.420728	0.557237	0.837062	0.05829	0.751366	0.514237	0.059633	0.882534	0.454726
0.863247	0.994873	0.240364	0.2725	0.45497	0.40611	0.176885	0.025178	0.138371	0.320322
0.138585	0.038575	0.085757	0.181555	0.411969	0.20304	0.689779	0.061922	0.501938	0.466964
0.245033	0.231605	0.99353	0.207984	0.234107	0.721549	0.931394	0.452071	0.718406	0.171087
0.045473	0.312296	0.053133	0.168188	0.785485	0.359416	0.517777	0.379711	0.54564	0.003143
0.03238	0.694113	0.681448	0.768456	0.286569	0.601428	0.369366	0.005127	0.940367	0.044099
0.164129	0.367962	0.407544	0.227638	0.192389	0.701071	0.848903	0.295785	0.708365	0.69808
0.219611	0.315806	0.798059	0.462203	0.123966	0.547655	0.207404	0.246956	0.303262	0.741264
0.01709	0.782281	0.214637	0.245766	0.252541	0.203711	0.540849	0.452803	0.055757	0.090121
0.285043	0.298135	0.817225	0.962249	0.984985	0.250984	0.41258	0.570788	0.984924	0.627155
0.343089	0.969085	0.102298	0.524979	0.268868	0.753685	0.383984	0.769463	0.742454	0.707907
0.553636	0.907682	0.519089	0.459639	0.967345	0.739494	0.601978	0.737815	0.019898	0.561663
0.357372	0.916715	0.301584	0.009033	0.740349	0.518754	0.375134	0.973327	0.48207	0.698263
0.371838	0.877468	0.8081	0.134159	0.759117	0.816034	0.803034	0.844569	0.877529	0.73748
0.355602	0.144566	0.368755	0.438093	0.36079	0.983489	0.690939	0.999145	0.848933	0.145451
0.910306	0.056795	0.019898	0.989959	0.067537	0.910184	0.771722	0.225929	0.451277	0.226936





Figure 84

Numeric Output of Box-Muller Transformation on Uniform R.V. Sample Sequences

Ten Uniform Sampling Sequences, each separately seeded; made standard normal by Box-Muller Method:

Box-Muller: Standard Normal Random Variable V1 = SQRT(-2*LN(U(Ia))) * COS(2*PI()*(U(Ib)))

Box-Muller: Standard Normal Random Variable V2 = SQRT(-2*LN(U(Ia))) * SIN(2*PI()*(U(Ib)))

Pair A:		Pair B:		Pair C:		Pair D:		Pair E:	
V1	V2								
-0.77614	0.62068	-0.22712	-0.41352	-1.49615	0.634424	-0.366	-0.8129	0.560542	-0.29825
2.128731	1.673026	-0.51109	-0.42086	-1.21287	0.30914	0.18877	-1.48422	-0.48062	-1.41708
-0.97723	-0.62832	-0.49626	-0.86349	1.562444	1.239769	-0.61401	0.120856	-1.04354	0.798606
0.120006	-1.04951	-0.03572	-1.2149	0.750996	0.854626	-0.21543	0.284799	-0.97657	0.046197
-0.04875	-0.52118	-0.37306	-0.36803	-0.33437	2.362462	-0.75181	-1.25905	-1.35373	2.467037
-0.20336	-0.36238	-0.9359	-0.32308	-0.12747	0.300181	-0.60412	-0.5937	0.010386	-0.01607
2.909723	0.005643	0.880622	-1.1456	1.050193	-0.20891	0.050141	0.250374	-1.08771	-0.1717
-1.17726	0.722988	0.562509	-0.92364	0.020449	-2.38416	1.073304	0.422092	-0.47982	0.1403
0.542037	-0.07679	-0.23791	1.671706	-1.04289	0.698167	1.838077	0.293227	-0.85046	1.797873
1.929991	1.951441	0.92407	2.014589	0.387277	1.274217	0.797428	0.326918	-1.14892	0.241972
0.193411	1.70956	0.029731	0.109991	-0.30301	-1.67694	-0.36005	0.111832	0.386931	0.71535
-0.94849	0.429991	1.191293	2.109679	-0.44099	0.537062	-0.83496	0.786935	1.100508	0.021739
-0.90097	0.17266	0.101332	-0.86994	-1.27067	-0.94072	1.410628	0.045458	0.337296	0.095927
-1.28354	1.213177	0.187642	1.326651	-0.54943	-1.73049	-0.1624	0.54886	-0.26612	-0.78662
-0.69959	1.490714	-0.65282	0.15802	-1.95249	-0.60273	0.033927	1.773422	-0.08476	-1.54244
0.574655	0.075106	0.046672	1.753693	0.475742	1.589351	-1.06031	0.323988	2.027779	1.289033
-0.47191	1.51821	0.617569	-0.1493	-0.00108	0.173945	-1.2012	-0.57252	-0.12157	-0.12491
1.435203	0.208953	-2.10911	-0.33376	0.037519	-1.62039	0.168773	-1.37325	-0.20174	-0.74491
0.909556	-0.14554	-1.10852	0.287302	-0.017	-0.25712	-0.07706	-1.00456	-2.59152	-1.05749
1.242578	0.325676	1.545865	0.087836	-0.77004	-0.09116	1.380717	-0.2336	-0.38582	-1.14476
1.009935	0.368658	0.434281	0.487381	0.299273	-0.67944	0.370814	-0.54883	-0.04017	-0.50958
0.884465	1.549458	-1.30701	0.535688	1.42023	-0.14787	0.859876	-0.00462	0.349495	0.453213
0.406218	-1.27949	2.793407	-0.17648	1.961681	-1.24175	0.108469	0.711686	0.182174	1.248263

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Figure 85

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GROUP 3600

	Descriptive Statistics of Small Sar	mples	
Pair A, V1	N=7 Pair A, V2	Pair B, V1	Pair B, V2
Mean 0.450426	Mean -0.03743	Mean -0.24265	Mean -0.6785
Standard E 0.56047	Standard E 0.347565	Standard E 0.214852	Standard E 0.14634
Median -0.04875	Median -0.36238	Median -0.37306	Median -0.42086
Mode #N/A	Mode #N/A	Mode #N/A	Mode #N/A
Standard E 1.482863	Standard E 0.919572	Standard C 0.568446	Standard E 0.387178
Sample Va 2.198883	Sample Va 0.845612	Sample Va 0.323131	Sample Va 0.149907
Kurtosis -0.45948	Kurtosis 1.115894	Kurtosis 2.798664	Kurtosis -1.94966
Skewness 1.030931	Skewness 1.169931	Skewness 1.340268	Skewness -0.6113
Range 3.886953	Range 2.722531	Range 1.816522	Range 0.89182
Minimum -0.97723	Minimum -1.04951	Minimum -0.9359	Minimum -1.2149
Maximum 2.909723	Maximum 1.673026	Maximum 0.880622	Maximum -0.32308 Sum -4.74948
Sum 3.15298	Sum -0.26203	Sum -1.69853 Count 7	Count 7
Count 7 Confidenc∈ 1.371421	Count 7 Confidence 0.850463	Confidence 0.525725	Confidence 0.35808
Confidence 1.37 1421	Cornidence 0.830483	Confidence 0.323723	Connidence 0.33608
Bin Frequency	Bin Frequency	Bin Frequency	Bin Frequency
-0.97723 1	-1.04951 1	-0.9359 1	-1.2149 1
0.966247 4	0.31176 4	-0.02764 5	-0.76899 2
More 2	More 2	More 1	More 4
Histogram	Histogram	Histogram	Histogram
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Sept 1 - Market 1 - Ma	5 Frequency	5 D Frequency	De la Company
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P 6 K 7 Z E	Bin	Bin	Bin
Pair C, V1	Pair C, V2	Pair D, V1	Pair D, V2
 			
Mean 0.027538	Mean 0.784528	Mean -0.33035	Mean -0.49912
Mean 0.027538 Standard E 0.434807	Standard E 0.315174	Standard E 0.134676	Standard E 0.276713
Median -0.12747	Median 0.634424	Median -0.366	Median -0.5937
Mode #N/A	Mode #N/A	Mode #N/A	Mode #N/A
Standard E 1,150391	Standard C 0.833873	Standard E 0.35632	Standard C 0.732114
Sample Va 1.323399	Sample Va 0.695344	Sample Va 0.126964	Sample Va 0.535992
Kurtosis -1.48493	Kurtosis 1.668062	Kurtosis -1.42221	Kurtosis -1.94667
Skewness -0.06633	Skewness 1.134284	Skewness 0.403595	Skewness -0.16976
Range 3.058596	Range 2.571371	Range 0.940578	Range 1,769019
Minimum -1.49615	Minimum -0.20891	Minimum -0.75181	Minimum -1.48422
Maximum 1.562444	Maximum 2.362462	Maximum 0.18877	Maximum 0.284799
Sum 0.192768	Sum 5.491694	Sum -2.31247	Sum -3.49383
Count 7	Count 7	Count 7	Count 7
Confidenc∈ 1.063935	Confidence 0.771205	Confidenc∈ 0.329541	Confidence 0.677093
Bin Frequency	Bin Frequency	Bin Frequency	Bin Frequency
-1.49615 1	-0.20891 1	-0.75181 1	-1.48422 1
0.033146 3	1.076777 4	-0.28152 3	-0.59971 2
More 3	More 2	More 3	More 4
Histogram	Histogram	Histogram	Histogram
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Figure 86



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KGROUP 3600

			, 3 3,
	Descriptive Statistics of Small Sa	mples	
	N=15	•	
Pair A, V1	Pair A, V2	Pair B, V1	Pair B, V2
			
Mean 0.053905	Mean 0.490114	Mean 0.027154	Mean 0.056505
Standard E 0.337076	Standard E 0.245419	Standard E 0.161223	Standard E 0.299086
Median -0.20336	Median 0.429991	Median -0.03572	Median -0.36803
Mode #N/A	Mode #N/A	Mode #N/A	Mode #N/A
Standard E 1.305488	Standard E 0.950502	Standard C 0.624414	Standard E 1.158353
Sample Va 1.704299	Sample Va 0.903455	Sample Va 0.389893	Sample Va 1.341782
Kurtosis 0.269906	Kurtosis -1.22001	Kurtosis -0.61389	Kurtosis -0.77163
Skewness 1.13703	Skewness 0.091504	Skewness 0.498485	Skewness 0.836512
Range 4.193263	Range 3.000946	Range 2.127194	Range 3.324581
Minimum -1.28354	Minimum -1.04951	Minimum -0.9359	Minimum -1.2149
Maximum 2.909723	Maximum 1.951441	Maximum 1.191293	Maximum 2.109679
Sum 0.808576	Sum 7.351706	Sum 0.407317	Sum 0.847575
Count 15	Count 15	Count 15	Count 15
Confidence 0.722956	Confidenc∈ 0.526371	Confidence 0.34579	Confidenœ 0.641475
Bin Frequency	Bin Frequency	Bin Frequency	Bin Frequency
-1.28354 1	-1.04951 1	-0.9359 1	-1.2149 1
0.114214 8	-0.04919 4	-0.22684 6	-0.10671 8
1.511969 3	0.951125 5	0.482229 4	1.001485 2
More 3	More 5	More 4	More 4
Histogram	Histogram	Histogram	Histogram
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Bin	Bin	Bin	Bin
Pair C, V1	Pair C, V2	Pair D, V1	Pair D, V2
			<u>· </u>
Mean -0.3306	Mean 0.044406	Mean 0.098899	Mean 0.054328
Standard E 0.254102	Standard E 0.335159	Standard E 0.211453	Standard E 0.211194
Median -0.33437	Median 0.30914	Median -0.1624	Median 0.250374
Mode #N/A	Mode #N/A	Mode #N/A	Mode #N/A
Standard C 0.984133	Standard E 1.298064	Standard C 0.818953	Standard C 0.817952
Sample Va 0.968518	Sample Va 1.68497	Sample Va 0.670684	Sample Va 0.669046
Kurtosis -0.42573	Kurtosis -0.33929	Kurtosis -0.07014	Kurtosis 0.75619
Skewness 0.290784	Skewness -0.34152	Skewness 0.960032	Skewness -0.17069
Range 3.514931	Range 4.746622	Range 2.673034	Range 3.257642
Minimum -1.95249	Minimum -2.38416	Minimum -0.83496	Minimum -1.48422
Maximum 1.562444	Maximum 2.362462	Maximum 1.838077	Maximum 1.773422
Sum -4.95898	Sum 0.666088	Sum 1.483486	Sum 0.814913
Count 15 Confidence 0.544995	Confidence 0.718844	Count 15	Count 15
Confidence 0.544895	Confidence 0.718844	Confidenc∈ 0.453522	Confidence 0.452967
Bin Frequency	Bin Frequency	Bin Frequency	Bin Frequency
-1.95249 1	-2.38416 1	-0.83496 1	-1.48422 1
-0.78084 4	-0.80195 3	0.056054 9	-0.39834 3
0.390801 7	0.780255 7	0.947065 2	0.687541 9
More 3	More 4	More 3	More 2
Histogram	Histogram	Histogram	Histogram
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Bin	Bin	Bin	Bin
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Figure 87

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GROUP 3600

	Descriptive Statistics of Small San	mples	
Pair A, V1	N=23 Pair A, V2	Pair B, V1	Pair B, V2
Mean 0,295621	Mean 0.433597	Mean 0.057412	Mean 0.145215
Standard E 0.238759	Standard E 0.191637	Standard E 0.215708	Standard E 0.209474
Median 0.193411	Median 0.325676	Median 0.029731	Median -0.1493
Mode #N/A	Mode #N/A	Mode #N/A	Mode #N/A
Standard E 1.145049	Standard C 0.919059	Standard C 1.0345	Standard E 1.0046
Sample Va 1.311138	Sample Va 0.844669	Sample Va 1.07019	Sample Va 1.009221
Kurtosis -0.3689 Skewness 0.526621	Kurtosis -0.85548 Skewness 0.031131	Kurtosis 1.374238 Skewness 0.480699	Kurtosis -0.4539 Skewness 0.729695
Range 4.193263	Range 3.23093	Range 4.902513	Range 3.324581
Minimum -1.28354	Minimum -1.27949	Minimum -2.10911	Minimum -1.2149
Maximum 2.909723	Maximum 1.951441	Maximum 2.793407	Maximum 2.109679
Sum 6.799279	Sum 9.97274	Sum 1.320471	Sum 3.339934
Count 23	Count 23	Count 23	Count 23
Confidence 0.495157	Confidenc∈ 0.397431	Confidenœ 0.447352	Confidence 0.434422
Bin Frequency	Bin Frequency	Bin Frequency	Bin Frequency
-1.28354 1	-1.27949 1	-2.10911 1	-1.2149 1
-0.23522 7	-0.47176 3	-0.88348 3	-0.38376 6
0.813092 7	0.335976 8	0.34215 11	0.447388 9
1.861407 5	1.143708 4	1.567778 7	1.278534 2
More 3	More 7	More 1	More 5
Histogram	Histogram	Histogram	Histogram
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Pair C, V1	Pair C, V2	Pair D, V1	Pair D, V2
Pair C, V1	Pair C, V2	Pair D, V1	Pair D, V2
Mean -0.06751	Mean -0.06993	Mean 0.088416	Mean -0.08203
Mean -0.06751 Standard E 0.207896	Mean -0.06993 Standard E 0.246672	Mean 0.088416 Standard E 0.170752	Mean -0.08203 Standard E 0.163013
Mean -0.06751 Standard E 0.207896 Median -0.017	Mean -0.06993 Standard E 0.246672 Median -0.09116	Mean 0.088416 Standard E 0.170752 Median 0.033927	Mean -0.08203 Standard E 0.163013 Median 0.111832
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A
Mean -0.06751 Standard E 0.207896 Median -0.017	Mean -0.06993 Standard E 0.246672 Median -0.09116	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard C 0.997033 Sample Va 0.994075	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard C 1.182995 Sample Va 1.399478	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard Ľ 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard Ē 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard C 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard C 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.382462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum 1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807 Bin Frequency
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807 Bin Frequency -1.48422 1 -0.66981 4 0.144601 8
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard □ 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807 Bin Frequency -1.48422 1 -0.66981 4 0.144601 8 0.959011
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6 More 4	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard Ē 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7 More 4	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807 Bin Frequency -1.48422 1 -0.66981 4 0.144601 8
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard □ 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4	Mean -0.08203 Standard E 0.163013 Median 0.111832 Mode #N/A Standard C 0.781785 Sample Va 0.611188 Kurtosis 0.205099 Skewness 0.014878 Range 3.257642 Minimum -1.48422 Maximum 1.773422 Sum -1.88678 Count 23 Confidence 0.33807 Bin Frequency -1.48422 1 -0.66981 4 0.144601 8 0.959011
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6 More 4	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7 More 4	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4 More 3	Mean
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6 More 4	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7 More 4	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4 More 3	Mean
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6 More 4 Histogram	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard E 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7 More 4	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4 More 3 Histogram	Mean
Mean -0.06751 Standard E 0.207896 Median -0.017 Mode #N/A Standard E 0.997033 Sample Va 0.994075 Kurtosis -0.25868 Skewness 0.19592 Range 3.914167 Minimum -1.95249 Maximum 1.961681 Sum -1.55264 Count 23 Confidence 0.43115 Bin Frequency -1.95249 1 -0.97394 4 0.004597 8 0.983139 6 More 4 Histogram	Mean -0.06993 Standard E 0.246672 Median -0.09116 Mode #N/A Standard □ 1.182995 Sample Va 1.399478 Kurtosis -0.3547 Skewness -0.05823 Range 4.746622 Minimum -2.38416 Maximum 2.362462 Sum -1.60834 Count 23 Confidence 0.511566 Bin Frequency -2.38416 1 -1.1975 4 -0.01085 7 1.175807 7 More 4 Histogram	Mean 0.088416 Standard E 0.170752 Median 0.033927 Mode #N/A Standard C 0.818899 Sample Va 0.670595 Kurtosis -0.39191 Skewness 0.513887 Range 3.039275 Minimum -1.2012 Maximum 1.838077 Sum 2.033562 Count 23 Confidence 0.354119 Bin Frequency -1.2012 1 -0.44138 5 0.318439 10 1.078258 4 More 3 Histogram	Mean

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Figure 88

PairA, V1		PairA, V2		PairB, V1		PairB, V2	
Mean	0.029718	Mean	0.25206	Mean	0.107852	Mean	0.017778
Standard E	0.158592	Standard E	0.137522	Standard E	0.145238	Standard E	0.146055
Median	0.065401	Median	0.190806	Median	0.100486	Median	-0.1503
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard D	1.09876	Standard D	0.952784	Standard D	1.006237	Standard D	1.011897
Sample Va	1.207273	Sample Va	0.907796	Sample Va	1.012513	Sample Va	1.023936
Kurtosis	-0.31892	Kurtosis	-0.26996	Kurtosis	0.722071	Kurtosis	0.254814
Skewness	0.381712	Skewness	-0.05139	Skewness	0.149183	Skewness	0.4922
Range	4.801632	Range	3.944707	Range	5.114252	Range	4.548292
Minimum	-1.89191	Minimum	-1.9692	Minimum	-2.32085	Minimum	-2.30396
Maximum	2.909723	Maximum	1.975503	Maximum	2.793407	Maximum	2.244334
Sum	1.426485	Sum	12.09887	Sum	5.176872	Sum	0.853352
Count	48	Count	48	Count	48	Count	48
Confidence	0.319046	Confidence	0.276659	Confidence	0.292181	Confidence	0.293824

PairC, V1		PairC, V2		PairD, V1		PairD, V2	
Mean	0.116748	Mean	-0.03693	Mean	-0.12866	Mean	0.019805
Standard E	0.147548	Standard E	0.143687	Standard E	0.148233	Standard E	0.113792
Median	0.083812	Median	-0.00224	Median	-0.21236	Median	0.077359
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard D	1.022242	Standard D	0.995491	Standard D	1.02699	Standard D	0.788373
Sample Va	1.044978	Sample Va	0.991003	Sample Va	1.054709	Sample Va	0.621532
Kurtosis	-0.76122	Kurtosis	-0.23206	Kurtosis	0.200353	Kurtosis	-0.22563
Skewness	-0.05751	Skewness	-0.14942	Skewness	0.430159	Skewness	0.123458
Range	3.914167	Range	4.746622	Range	4.840904	Range	3.257642
Minimum	-1.95249	Minimum	-2.38416	Minimum	-2.01586	Minimum	-1.48422
Maximum	1.961681	Maximum	2.362462	Maximum	2.825042	Maximum	1.773422
Sum	5.603888	Sum	-1.77268	Sum	-6.17575	Sum	0.950643
Count	48	Count	48	Count	48	Count	48
Confidence	0.296828	Confidence	0.28906	Confidence	0.298207	Confidence	0.228919

PairE, V1		PairE, V2	
Tanz, VI		T GILL, VZ	
Mean	-0.10218	Mean	-0.05258
Standard E	0.144669	Standard E	0.126471
Median	-0.04147	Median	-0.07049
Mode	#N/A	Mode	#N/A
Standard D	1.002297	Standard D	0.876214
Sample Va	1.004599	Sample Va	0.767751
Kurtosis	0.441772	Kurtosis	0.366947
Skewness	-0.02939	Skewness	0.39663
Range	4.875202	Range	4.111267
Minimum	-2.59152	Minimum	-1.64423
Maximum	2.283682	Maximum	2.467037
Sum	-4.90459	Sum	-2.52385
Count	48	Count	48
Confidence	0.291036	Confidence	0.254426

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Figure 89

PairA, V1		PairA, V2		PairB, V1		PairB, V2	
Mean	0.096989	Mean	0.196302	Mean	0.104324	Mean	-0.00952
Standard E	0.13961	Standard E	0.122261	Standard E	0.123087	Standard E	0.134324
Median	0.109633	Median	0.168694	Median	0.103114	Median	-0.1503
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard D	1.099287	Standard D	0.962687	Standard D	0.969186	Standard D	1.05767
Sample Va	1.208433	Sample Va	0.926765	Sample Va	0.939322	Sample Va	1.118666
Kurtosis	-0.54311	Kurtosis	-0.47122	Kurtosis	0.606116	Kurtosis	0.036602
Skewness	0.270592	Skewness	-0.00894	Skewness	0.104529	Skewness	0.385504
Range	4.801632	Range	3.944707	Range	5.114252	Range	4.548292
Minimum	-1.89191	Minimum	-1.9692	Minimum	-2.32085	Minimum	-2.30396
Maximum	2.909723	Maximum	1.975503	Maximum	2.793407	Maximum	2.244334
Sum	6.013295	Sum	12.17075	Sum	6.46811	Sum	-0.59005
Count	62	Count	62	Count	62	Count	62
Confidence	0.279167	Confidence	0.244477	Confidence	0.246127	Confidence	0.268598

PairC, V1		PairC, V2		PairD, V1		PairD, V2	
Mean	0.058135	Mean	-0.02677	Mean	-0.2056	Mean	-0.03363
Standard E	0.127375	Standard E	0.124805	Standard E	0.123796	Standard E	0.097062
Median	0.009687	Median	-0.03285	Median	-0.22023	Median	0.014122
Mode	#N/A	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard D	1.002953	Standard D	0.982716	Standard D	0.974768	Standard D	0.764267
Sample Va	1.005915	Sample Va	0.965731	Sample Va	0.950173	Sample Va	0.584104
Kurtosis	-0.62364	Kurtosis	0.254169	Kurtosis	0.386065	Kurtosis	-0.19345
Skewness	-0.04033	Skewness	0.090306	Skewness	0.468056	Skewness	0.175304
Range	3.965942	Range	4.972036	Range	4.840904	Range	3.261751
Minimum	-2.00426	Minimum	-2.38416	Minimum	-2.01586	Minimum	-1.48833
Maximum	1.961681	Maximum	2.587876	Maximum	2.825042	Maximum	1.773422
Sum	3.60437	Sum	-1.65981	Sum	-12.747	Sum	-2.08523
Count	62	Count	62	Count	62	Count	62
Confidence	0.254702	Confidence	0.249563	Confidence	0.247545	Confidence	0.194088

PairE, V1		PairE, V2	
Mean	-0.09963	Mean	-0.03354
Standard E	0.124201	Standard E	0.118063
Median	-0.04147	Median	0.033968
Mode	#N/A	Mode	#N/A
Standard D	0.977963	Standard D	0.929633
Sample Va	0.956411	Sample Va	0.864217
Kurtosis	0.33183	Kurtosis	0.486656
Skewness	-0.15939	Skewness	-0.14884
Range	4.875202	Range	5.053046
Minimum	-2.59152	Minimum	-2.58601
Maximum	2.283682	Maximum	2.467037
Sum	-6.1771	Sum	-2.0793
Count	62	Count	62
Confidence	0.248356	Confidence	0.236083



Figure 90

Numeric Output of Alternate Box-Muller Transformation on Uniform R.V. Sample Sequences

Standard Normal Random Variable = SQRT(-2*LN(U(Ia)))*COS(2*PI()*(U(Ib)))

Ui, Ui+2 Ui, Ui+1 Ui+1, Ui Ui+2,Ui+1 Ui, Ui+3 Ui+1,Ui+4 Ui+3,Ui+5 Ui+2,Ui+4 Ui+2,Ui+1 Ui, Ui+4 -1.58306 -0.3654 1.118872 -0.69476-1.6074 -0.17458 -0.1134 -0.63082 -0.60704 -0.19364-0.38205 -1.76096 1.095513 -0.65562 1.169318 -0.82681 1.436749 -1.02918 -0.86182 0.460259 0.819048 -1.70328 0.68948 -0.02854 1.889885 1.961848 -0.84363 0.177595 -2.05044 -1.34441 0.345205 0.204495 -0.92403 -0.77499 -1.04786 0.013839 0.113221 0.904402 0.019001 -1.14238-0.13826 0.478427 -0.31349-0.53047 2.227761 -1.26497 -0.42605 1.722225 -0.63685 1.101179 -0.04331 -0.92676 0.290076 0.363487 -0.31316 0.073278 1.69105 2.1972 -0.47974 -0.57526 -2.43136 1.315783 0.087433 0.838752 -0.91111 -0.13445-0.85647 -2.59147 1.471324 0.540154 0.875082 -0.08907 0.928218 -0.26028 0.237685 -0.85193 -0.25699 -1.71653 0.757633 1.255192 0.34939 2.550201 1.687156 0.738855 -1.43518 0.277506 0.667983 1.259439 -0.81323 1.451371 0.062034 1.660399 2.094043 0.492712 -0.30331 -0.24448 0.373243 -0.39485-0.21708-0.395491.609129 0.175941 -0.04757 0.356863 0.603471 -1.36692 -0.33635 -0.10309 -0.55363 0.062113 2.434943 -0.32601 -2.02536 0.199063 0.494561 0.289171 -1.51283 0.772804 -1.49272 2.864967 1.345626 -0.4864 0.260467 0.173989 -0.02524 -0.00521 -0.82696 -1.50974 -0.39952 -1.742640.360793 -1.02509 0.295265 -1.62831 1.807546 0.025406 -1.06672 0.153557 -0.78919 -0.22163 -0.28156 0.00738 1.731175 0.275344 -0.24168 -0.11767 -0.97916 -0.081 0.163716 -0.71646-0.62307 0.313393 1.404233 1.103463 0.329543 0.713821 1.624228 -1.65122 0.768284 -0.70068 -0.07465 -0.6308 -0.87475 -1.23152 -0.01054 0.30315 -0.50781 0.436578 -0.13265-0.07591 -1.38043 0.431863 -0.68004 -2.97004 0.0928 0.772726 0.090119 0.232528 1.198599 0.507581 0.348821 0.408813 -0.67922 2.001131 -0.16524 0.968065 0.854391 0.087577 -0.50793 0.155113 -0.99403 0.442878 -1.05106 0.854715 0.706641 -0.63139 0.435125 0.411071 0.041212 0.740369 -0.86633 1.412089 0.647699 -0.13145 -0.71215 0.179567 -1.55995 -0.92316 0.734627 0.769818 1.215636 1.473141 0.799973 0.353926 0.873706 0.315574 -1.80975 0.161371 -0.92429 1.631629 -0.42369 1.695935 0.968575 0.635109 1.888085 -1.08472 -0.5051 -1.40106 -1.63588 -1.00551



Figure 91

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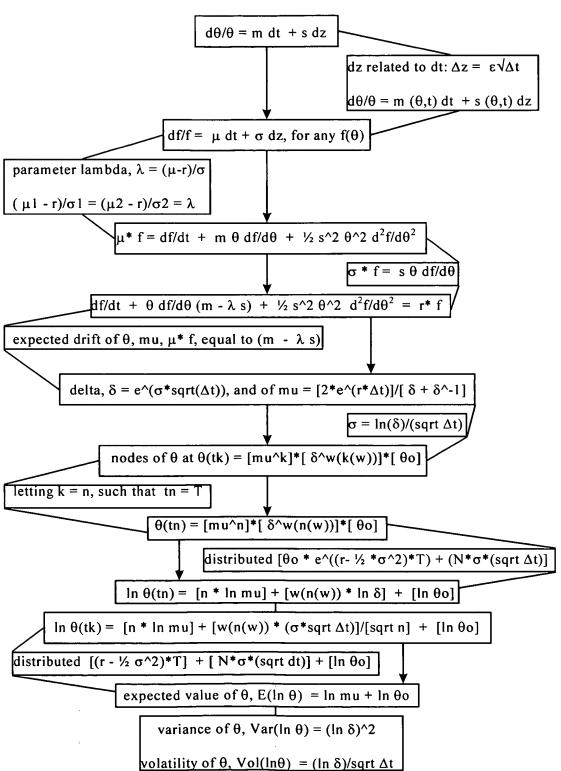




Figure 92

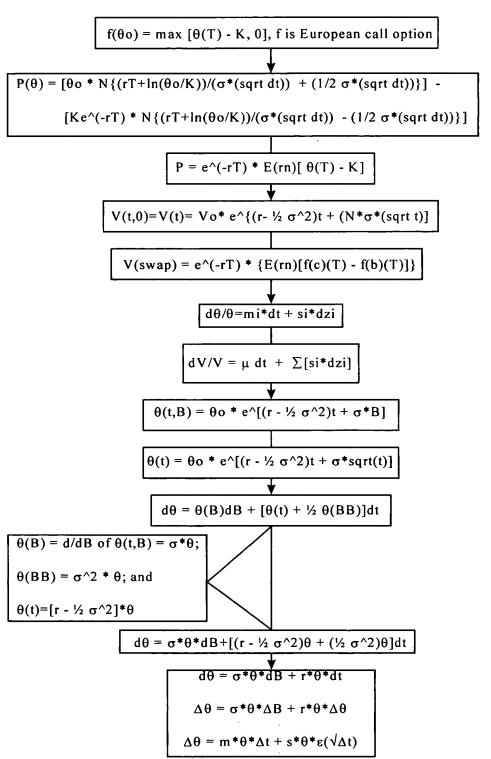




Figure 93

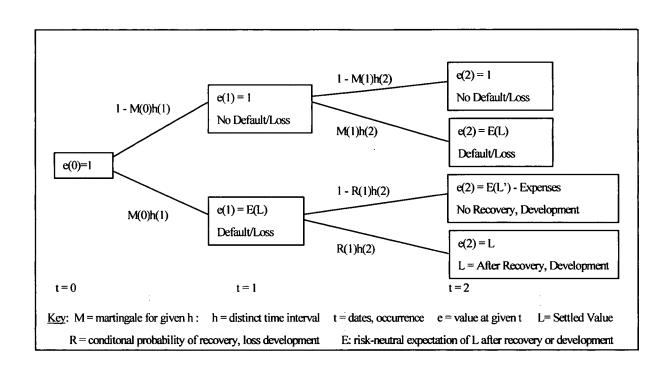
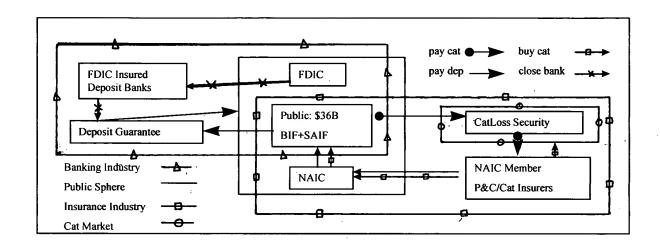




Figure 94



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Figure 95

Temporary disable feature on memory and/or graphics, internal or as outside device, for tests

this enables the calculators to be used in test environments without further ado or loss by having temporary disable feature, memory is not deleted, but is non-functional for tests disable memory and/or graphics functions for a time period, so the calculator can be used: an internal disable feature with timed duration, using the processor's clock to count time or by central storage, memory loading, device, with storage space per calculator in group.

Figure 96

Short coded demos in on-board memory of interesting usage, topics, subjects and formulae

it's always fun for an electronic device to have simple programs, showcasing capabilities it's always good for dedicated devices to stimulate interest and learning in their subject the depth of features available in such calculators often remain hidden from casual use: demos on topics, functions and formulas in memory, wherein elaboration in user manual the user manual is organized, conceived and focused on capabilities, usage, applications examples: reference items, formulae, even graphical art generations, sample, "Insect": graph in polar: $r1 = 5\cos(2\Pi)$; $r2 = 2+2\cos(2\theta)$; $r3 = 5-2\tan(5\theta)$; $r4 = 4+4\sin(2+2\theta)$. add brief elaboration and context to educate, to inform; see also Reference Resources.

Figure 97

Resident resource compendia, RAM/ROM sets providing coded functions and items on-board

not much on-board memory need be taken up by assorted demos, being fixed-coded items by executing demos on user command, stored graphics, results or images are not required add required list, group or function for the variety of subject expositions ala encyclopedia: target assemblage of reference compendia to varied educational levels of math and science high school version supports teaching of geometry, algebra, probability, calculus, sciences elementary to college versions help educate; scaleable to lower end units, and useable in all; make advanced specialized resources per industry, as modules loaded to RAM or installed per electrical, mechanical, environmental, financial engineering; math, physics, astronomy such items include today's methods, theorems, formulae, procedures, pre-coded functions compendia add pivotal resources: references, equations, algorithms, processes, programs.

Figure 98

professional standard industry-specific software, pre-loaded or accessible through interface

develop the reference resources along with subject functions coded to existent calculators arm a portion of calculator memory with compendium of equations, conversions, etc. some to full pre-loading, or as modules by industry fields, with downloading to RAM

Figure 99

value-added software is packaged as desirable assets for different operational specialties

Calculator has application archives, of science, math, engineering, focus on user-friendly proper subject archives arranged, to be categorically supplemented by newly coded items new archives are value-added property to integrate, install, or avail, by cable, line or net all software can be pre-loaded (opt. delete), be availed separately, or transmitted on-line provide additional access and memory capacity, i.e. RAM/ROM cards, ext/int drive/storage technology path of calculator unit on improved digital interfaces, bus, PCMCIA, memory.

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GROUP 35. 7

Figure 100

Resident Financi	Resident Financial Equations and Algorithms coded for use in Equation (iterative) Solver, include:								
AI CorpB	AI TB	Annuity	Bond Equiv Yield	Bin 1, Bin2, Bin 3					
Binomial	BS	Bond	BonK, BonV	Brown					
CBT	CLT	Comp	Con, Conadj, Condp	Convexity					
DeltaP, dP	dPdY	DurMod	DurMc	DV01					
FFOTD	Forward	FX	Hedge, HR	MDS					
Min1,Min2,Min	3 Mortgage	MPC	Muni	OAS3 (example)					
OCF	PAY, PAY1	PR, PRBond	PRCalB, PRMunat	PRO					
PROMOD	PROPC	PTIC	PV	SPC					
Spot	Swap	FXSwap	Tbill1, TB2,	TBT					
TDCap	V	Var	W	BoxMuller ,					

Resident Financial Reference Resource Items coded for display to screen or output, include:					
Bernoulli	optionbond	Borel-Cantelli	Boundary	Brownian	
Option	optionlog	CAPM	Chebychev	Correlation	
CoVar	Credit	cut-off	distfunc	E(N)	
EQU	EX	Floater	FOCF	GenFunc	
GcS	lattice	Inde	Intre	Ito	
Lambda	lease	martingale	minrisk	mpr	
partition	PCP	Poisson	Portf	RandomW	
replication	riskadverse	SPC	strong	theorfut	
tokens	tree	utility	weak	weight	

Other R	Reference Resource	e Sources for F	inancial Matter,	Data, Equations and References, include:
Books	Periodicals	Newspapers	Internet	Real-time digitized data providers

Resident Processing, Reference Resource Items and Programmed Functions, include:

clock, date, calendar, default value present time/date

equation solver function and simultaneous equation solver function

intervals between dates, coupons, valuation, exercise, expiration

day-count conventions, instrument standards, conversions

fixed-income general valuations (annuity, mortgage, lease, bond, rates and yields)

fixed-income advanced valuations (variable cash-flows, inverse, MBS, sinking, optionality)

fixed-income derivative valuations (options, futures basis, hedge ratios, swaps, FX dP/dY)

fixed-income and derivative sensitivities (duration, convexity, delta, gamma, theta, dtheta)

fixed-income yield curve building (spot, risk-free short rates and forward curves)

accounting standards, (GAAP, statutory, derivatives, credit quality, risk-adjusted capital)

financial statement and performance ratios, operating ratios of financial criterion

credit and ratings grade conventions, calculating ratings and spread approximations

insurance ratios, pricing, quantitative methods

reinsurance forms and pricing of excess of loss, facultative, treaty varieties

actuarial mathematics and sciences, loss distributions, contingencies, survival models

standard normal and lognormal random number generation, selectable N, descriptive statistics of sample

simulations by lattice, brownian motion, random sequence generation, interpolation

portfolio management of VaR, performance analytic measures

direct approximations by derivation, linear algebra, symbolic, integration, interpolation

mapping to charts, display multiple list and graphical display (to 3D)

one, two and more variable statistics and multi-factor regression

time series and artificial intelligence data mining, normalization procedures

inferential and descriptive statistics, probability distributions

real-time and formatted data loading and serial, IRDA and TCP/IP

stored column formulas, spreadsheet capability, data set manipulation

split screen, display size minimum pixels 128x64, 8x21 display characters

trace, overlay (or by split screen) and combine scatter plots, histograms, interpolations, results.